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Virginia MEDICAL MONTHLY

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Medical Society of Virginia
Annual Meeting
Richmond, October 18-20, 1948

June, 1948

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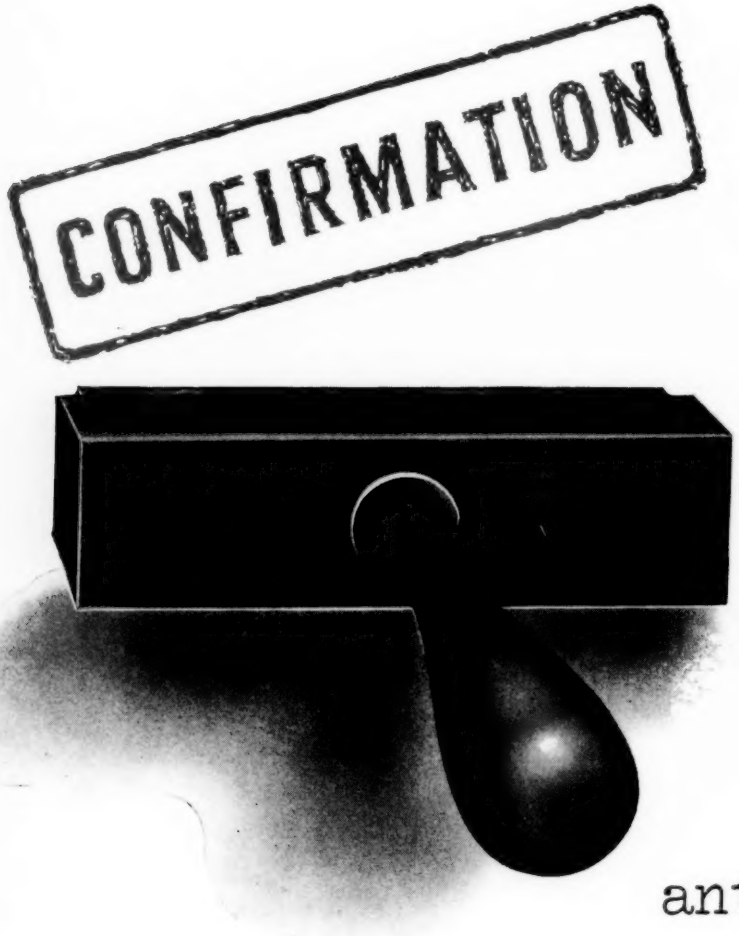
Proven effectiveness

in allergic disorders



confirms the distinctive position of BENADRYL as an outstanding antihistaminic agent.

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GUEST EDITORIAL

The American Red Cross National Blood Program

THE National Blood Program of the American National Red Cross, a unique peace time project, with extensive medical and social implications, has begun with the establishment of the first regional Blood Center in Rochester, New York, January 12, 1948. Plans are under way to inaugurate a number of other centers, with their supporting mobile collection units, before the midyear of 1949 and in three to five years, scores of centers will form a nationwide series, strategically located with the view to the most effective procurement and distribution of blood to meet the civilian needs on the community level. Blood is a fundamental form of treatment, both for surgical and medical cases, a fact still not fully appreciated in many urban and most rural parts of this country. Experience tables indicate that approximately 3,700,000 pints could be judiciously used per year—3,000,000 for civilians, and 700,000 pints for the veterans, military and other government hospitals. In other words, the country needs, according to the best estimates, five pints of blood per general hospital bed per year, plus one pint per tuberculosis and neuropsychiatric bed per year. This total, much less than is being furnished by all the organized hospital and community blood banks now in existence, plus the products of the commericial laboratories, is geared to a maximum standard, as viewed today, for civilian use, with some provision for disaster relief short of war. It is the aim of the American National Red Cross to furnish such a continuous supply of blood, sufficient to meet the hazards of peace and at the same time keep in mind the needs for an expanded program in case of grave national or international emergency.

The American National Red Cross is eminently fitted, by long experience, to carry on such a program. As early as the late 1930's a Red Cross chapter in Georgia began to recruit voluntary donors to supply blood free of charge to the doctors and hospitals in the city of Augusta. During World War II the Government called upon the Red Cross, as the logical agency, to procure the blood that proved to be one of the most outstanding factors in saving lives during the War. The wartime program, moreover, was a spectacular success and it engendered so fine a spirit in the people of this country that they gave freely of themselves so that the members of the Armed Forces could survive. Although the greater part of this activity was relinquished at the end of World War II, the Red Cross has carried on since that time a partial peace time program by assisting in meeting the needs in states such as Massachusetts, Michigan and North Dakota and by "permissive" programs giving chapters authorization to participate in city and county blood banks.

At the same time, the American National Red Cross aided in an extensive research program. Based on these investigations, later coordinated with an appropriate committee of the National Research Council, the National Blood Program, now provided for, will make available not only whole blood but blood derivatives of proved value,

such as serum albumin, immune serum globulin, antihemophilic globulin, blood grouping serum, fibrin films, red cell suspensions and other red cell products for both treatment and for further scientific research. Such an extensive program, involving the collection of blood, the processing, the making of blood available and the maintaining of the highest standards, would seem to be a natural prerequisite of the American National Red Cross. When the aim and scope of this program are fully realized, with due recognition of the provisions made by the Red Cross so as not to encroach on qualified existing blood banks, this great peacetime endeavor should have the entire support of the medical profession. Such indeed has been already given to it by a special committee of the American Medical Association.

HENRY R. VIETS, M.D.

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EDITOR'S NOTE: Among other things, Dr. Viets is secretary of the Advisory Board on Health Services of the American National Red Cross.

Bibliotheca Obstetrica

WRIGHT, MARMADUKE BURR (1803-1879): Difficult labors and their treatment. Prize essay. Transactions of the ninth annual meeting of the Ohio State Medical Society. Cincinnati; "West American Monthly" Print. 1854. Pp. 59-88 illus. 21.1cm.

Garrison and Morton (A medical bibliography) list a reprint, Cincinnati, *Jackson, White & Co.,* 1854. A good picture and sketch of Wright is to be found in Thoms' Classical Contributions to Obstetrics and Gynecology. Marmaduke Wright made a worth while contribution to operative obstetrics. Characteristically of the times, he took 30 pages of fine print to describe his operation and to put forward its advantages. The article is accompanied by 12 figures. Six years later Braxton Hicks of London described a similar operation, and the operation usually goes by the name of Braxton Hicks version. Internal podalic version also goes by the same name. This little volume of transactions of 172 pages is strongly reminiscent of another American medical rarity, i.e. the Plattsburgh edition of Beaumont's *Experiments and observations on the gastric juice and the physiology of digestion.* Both were printed by local printers who evidently had no experience with book making.

The author was a native of New Jersey and graduated in medicine at the University of Pennsylvania in 1823. He settled in Ohio and in 1838 was elected professor of materia medica and therapeutics in the Medical College of Ohio. Two years later he became professor of obstetrics, but was removed by the trustees in 1850. He was re-elected to the same position in 1860. He was elected an honorary fellow of the American Gynecological Society in 1876. Dr. Wright was a pioneer in obstetrics and a leader in medical education in Ohio. He was a man of wide interests as is shown by his many papers and addresses. Among them are: Drunkenness, its nature and cure; or asylums for inebriates, delivered before the Ohio State Medical Society 1859; A lecture of the physiological and therapeutical uses of water, delivered to the students of the Ohio Medical College in 1839; The memorial of M. B. Wright in relation to the Medical College of Ohio, the official misconduct of its trustees, the mal-administration of its affairs and the dangerous position of the commercial hospital, made to the General Assembly. Columbus, S. Malory, Printer, 1851.

XUM

THE RESULTS OF VAGOTOMY*

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and
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Severing the various branches of the vagus nerve was revived in 1943 as a treatment of peptic ulcer by Dragstedt[1]. The procedure is now generally called vagotomy. Vagotomy can be performed through the thorax or through the abdomen. In the transthoracic approach, the operation is performed just above the diaphragm, and allows better dissection of the nerve branches. In the transabdominal approach, the esophagus is pulled through the hiatus into the abdominal cavity, and the nerves are resected from the lower esophageal wall, so that, even in this type of operation, the vagus nerves are interrupted at a supradiaphragmatic level. The transabdominal approach makes possible exploration and additional surgery, such as posterior gastroenterostomy or subtotal gastrectomy, at the same time. In the early days of the operation most surgeons used the transthoracic approach, but, more recently, the swing has been toward the transabdominal approach.

Apparently vagotomy permanently abolishes acid stimulation in the stomach produced either by "sham feeding" or by hypoglycemia, but it does not alter acid stimulation produced either by histamine or caffeine. Initially, vagotomy reduces the amount and the acidity of the night secretion of the stomach by about two-thirds, and it also practically eliminates the large contraction waves of the organ for a time, but, according to Moore[2], the fasting acidity and motility usually return to normal by the end of a year after the operation.

Simple vagotomy gives immediate and complete relief of ulcer pain in nearly all instances. It now seems firmly established that the parasympathetic nerves to the stomach carry no afferent pain fibers since sensations other than pain are perceived after vagotomy. Whether the relief of pain is due to alteration in the secretory or the motor functions of the stomach is not yet determined. It is believed that healing of the ulcer occurs, in most instances, within one to three weeks.

Intractable ulcer pain, marginal ulcer, and recurrent hemorrhages have been suggested as the indications for a vagotomy. Pyloric obstruction and gastric ulcer are considered contraindications unless the vagotomy is combined with supplementary gastric surgery. There is a tendency at present to frequently combine transabdominal vagotomy with gastro-enterostomy[3]. The results are often unsatisfactory in patients with severe hypochondriasis.

Three disadvantages of the operation have been recorded: (A) the failure of the stomach to empty properly, (B) cardiospasm, and (C) diarrhea. The post-operative failure to empty properly may be anticipated in patients who show a preoperative delay in emptying, and may be prevented by combining gastroenterostomy with vagotomy. The mild gastric retention that sometimes develops after simple vagotomy may be relieved by a new drug called urecholine (urethane of beta-methylchlorine)[4]. Cardiospasm following vagotomy can be controlled by the use of tetra-ethyl-ammonium-chloride (etamon). This drug paralyzes both the sympathetic and parasympathetic impulses at the ganglion[5]. With parasympathetic nerves cut, it inhibits the antagonistic sympathetic action producing the cardiospasm. The diarrhea, which is of unknown origin, is difficult to treat, but, fortunately, is usually transitory.

It is thought that when there is recurrence of the ulcer, severance of the vagus nerves has been incomplete. Hollander[6], who has devised a test for the completeness of vagotomy, claims that stimulation of acid secretion by hypoglycemia induced by large doses of insulin indicates that the nerves have not been completely cut.

At the present time, vagotomy must be considered to be in the stage of clinical experimentation. As yet complete evaluation is impossible. The longest follow-up of cases is less than five years and few cases have been followed more than three years. Some reports have been enthusiastic[7], and others guarded[8]. Some clinics have refused to adopt the procedure as yet[9]. Others have swung from advocating the transthoracic approach as a

*From the Department of Internal Medicine, University of Virginia Hospital, Charlottesville, Virginia.
Read before the annual meeting of the Medical Society of Virginia, at Roanoke, October 13-15, 1947.

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routine to advising that most operations be performed transabdominally[3]. Moore[2], however, still uses the transthoracic approach almost exclusively. One of the early groups[10] seems to have lost some of its original enthusiasm with a longer observation but still recommends the procedure in selected instances. No doubt, the operation is being employed at many of the smaller institutions which have not as yet published their findings. While the evaluation of the results of vagotomy is still in progress, it seems that even a small series of cases is worthy of record. The present report deals with twenty-two vagotomies which have been followed for a short time.

A total of twenty-two vagotomies in the twenty-one patients are included in this report. These operations were performed by five different surgeons of the visiting and resident staff of the University of Virginia Hospital between May, 1946, and May, 1947. When discussing the results of vagotomy one must necessarily consider all the cases in which the operation has been done. Since the results of vagotomy cannot be properly assessed when vagotomy is combined with an additional gastric operation, it is necessary to analyze this group by separating those cases in which vagotomy plus other surgery was done from those cases in which vagotomy alone was carried out. Twelve operations were done by the transabdominal approach combining other gastric surgery with vagotomy, and ten vagotomies were performed through the transthoracic approach without other surgery. In one instance a transthoracic vagotomy was followed two months later by a subtotal gastrectomy with further resection of the vagus nerves. This case has been included in both series.

In the twelve cases (Table I) subjected to transabdominal vagotomy, all the ulcers were duodenal or marginal, (although this same approach could have been used for gastric ulcers). The indications for operation were obstruction, recurrent hemorrhage and pain. Vagotomy was combined with subtotal gastrectomy six times, with posterior gastro-enterostomy five times and in the other case, the stomach was opened and the pylorus manually dilated. Over a three to eleven month follow-up period in this series of cases, the results were excellent in ten, good in one, and poor in one case. The case with poor results should not have been included, since it was noted at the time of the op-

TRANSABDOMINAL VAGOTOMY—(TABLE I)

CASE NO.	AGE	SEX	LOCATION OF * ULCER	YEARS OF SYMPTOMS	INDICATION FOR OPERATION	SUPPLEMENTAL SURGICAL PROCEDURE**	MONTHS OF FOLLOW-UP	WEIGHT CHANGE IN POUNDS	COMPLICATIONS	RESULTS
1	48	M	D	24	Obstruction	P. G. E.	11	8+	"Spits up"	Good
2	43	F	M	4	Pain	S. T. G.	11	35+	Cardiospasm Diarrhea	Excellent (See Text)
3	52	F	D	19	Obstruction	P. G. E.	10	10+	None	Excellent
4	59	M	D	13	Hemorrhage	S. T. G.	10	15+	None	Excellent
5	34	M	D	8	Obstruction	P. G. E.	10	28+	None	Excellent
6	52	M	D	3	Obstruction	Dilatation of Pylorus	8	8+	None	Excellent
7	46	M	D	30	Obstruction	S. T. G.	6	7+	None	Excellent
8	31	M	D	2	Pain	P. G. E.	6	15+	None	Excellent
9	39	M	D	15	Pain	P. G. E.	5	0	Return of Pain	Poor (Incomplete Vagotomy)
10	38	M	D	12	Pain	S. T. G.	3	0	None	Excellent
11	58	F	D	20	Hemorrhage	S. T. G.	3	5+	None	Excellent
12	59	F	D	14	Hemorrhage	S. T. G.	3	0	None	Excellent

*D—Duodenal M—Marginal
**P. G. E.—Posterior Gastro-Enterostomy S. T. G.—Subtotal Gastrectomy.

eration that the left vagus nerve had not been identified and cut. Our surgeons hope that vagotomy will reduce the incidence of marginal ulcers occurring after posterior gastro-enterostomy and subtotal gastrectomy. It may be significant that nine of our ten vagotomies performed in the past ten months have been by the transabdominal approach. The shortness of the follow-up must be emphasized and it must be pointed out again that the results obtained in this group might well have been just as satisfactory had no vagotomy been performed.

In the ten cases (Table II) subjected to transthoracic vagotomy alone, all the ulcers were duodenal or marginal. Gastric ulcers should not be treated by this operation. Intractable ulcer pain was the main indication for operation. Six of these patients have had excellent results in that they have been able to lead a normal life without symptoms and without dietary restrictions for an average period of more than a year. Although one patient admits he has no ulcer pains, he still follows a diet and states that he is "sorry that he had the operation." Three of these ten patients have come to subsequent major abdominal surgery and these three should be considered in some detail.

Case 2 (Table I and Table II) was a forty-three year old widow who had had ulcer symptoms for four years. In November, 1944, she had had a massive hemorrhage and a partial gastric resection was done after the hemorrhage ceased. She did well for a year, but in November, 1945, abdominal pain recurred. She was admitted on May 29, 1946, and treated by strict medical measures until July 6th when a transthoracic vagotomy was performed for persistent pain. For two months she was free of pain, gained five pounds and no marginal ulcer was visualized on two x-ray examinations. However, on September 9th, she had another massive hemorrhage. The Hollander insulin hypoglycemia test indicated that the vagus section had been complete. On October 26th a marginal ulcer was resected, a subtotal gastrectomy was performed and further dissection and resection of the vagus nerve was accomplished below the diaphragm. After this operation she developed severe cardiospasm (which was successfully controlled by tetraethyl-ammonium chloride) and a severe diarrhea which lasted many weeks. These symptoms gradually subsided and by September 1, 1947, she had gained 35 pounds in weight and was free of digestive discomfort.

Case 6 (Table II) was a fifty-one year old meat salesman who had had progressive ulcer

TRANSTHORACIC VAGOTOMY (TABLE II)

CASE NO.	AGE	SEX	LOCATION OF ULCER	YEARS OF SYMPTOMS	INDICATION FOR OPERATION	MONTHS OF FOLLOW-UP	WEIGHT CHANGE IN POUNDS	COMPLICATIONS	RESULTS
1	38	M	D	8	Pain	16	0	Transient Cardiospasm	Excellent
2*	43	F	M	4	Pain	15	35+	Massive Hemorrhage	Second Operation (see text)
3	56	M	D	20	Pain	14	6+	None	Excellent
4	31	M	D	8	Pain	13	10+	Transient Diarrhea	Excellent
5	52	M	D	20	Pain	13	0	"Full Feeling"	Good
6	50	M	D	30	Pain and Obstruction	11	0	Recurrent Ulcer Obstruction	Second Operation (see text)
7	19	M	D	7	Pain	11	10+	None	Excellent
8	53	M	D	10	Pain	11	35+	None	Excellent
9	50	M	D	15	Pain	11	10+	"Excessive Gas"	Excellent
10	35	M	D	5	Pain	5	3+	Massive Hemorrhage	Second Operation (see text)

*Same case as Case 2 in other table.

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symptoms in spite of medical treatment. A preoperative x-ray showed some retention, but on September 21, 1946, he was subjected to a transthoracic vagotomy. He was relieved of his ulcer pain and returned to work for several months. Later he developed severe vomiting and x-ray showed nearly complete obstruction. On May 21, 1947, a subtotal gastrectomy was undertaken and an ulcer penetrating to the pancreas was found. Since this operation, he has had no further symptoms and has returned to work.

Case 10 (Table II) was a thirty-five year old milkman incapacitated with pain even while on strict medical treatment. A transthoracic vagotomy was performed in March, 1947. He was completely relieved of all digestive symptoms for about six weeks, but he then had a recurrence of ulcer pain for three days, which was followed by a massive hemorrhage. An insulin hypoglycemia test on this patient was equivocal but indicated that there might have been an incomplete section of the vagus nerve. On May 14 a subtotal gastrectomy was done, and he has since been free of symptoms. At the second operation, performed one month after the hemorrhage, no definite bleeding point was located, and only an old ulcer scar was found.

SUMMARY

1. On the basis of our experience to date, we feel that vagotomy in addition to a posterior gastroenterostomy or subtotal gastric resection gives very satisfactory results in selected cases. However, we still have insufficient evidence that vagotomy will prevent formation of subsequent marginal ulcers. Furthermore, no one knows what may be the very late results of the severance of a major parasympathetic nerve. Improvement may be the result of the supplementary gastric surgery rather than of vagotomy. Transabdominal vagotomy combined with other gastric surgery, must certainly be considered in the stage of clinical experimentation.

2. In our experience, transthoracic vagotomy gives very equivocal results. In only six of our ten patients have the results been entirely satisfactory. In the case of a neurotic patient, the result was debatable. Three patients came to a subsequent subtotal gastrectomy. As yet, we have found no criteria by which we can judge which ulcer patients with pain will be relieved permanently by a simple vagotomy. Until we can predict this, and until we know the very late results in a large series of cases, we expect to employ simple vagotomy with considerable caution.

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DIVERTICULITIS OF THE COLON*

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and
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In these modern times of rapidly improving methods of treatment, diverticulitis of the colon persistently presents problems which are often very difficult to solve. In its complicated forms, this disease is represented by one of the most trying groups of patients who come into the hands of the surgeon for operative treatment. In spite of wide dissemination of information about the variegated aspects of the disease, the mortality rates for diverticulitis remain unusually high, especially in those patients who must be treated surgically. More complete knowledge regarding the insidiousness of the early stages should appreciably improve the cure rate of colonic diverticulitis, since the prevention of complications is infinitely preferable to the therapy of the later stages.

Diverticulosis is a term proposed independently in 1914 by several writers to describe the incidental finding in x-ray studies of multiple diverticula of the colon. A diverticulum is an abnormal outpouching of the wall of the colon, forming a sac-like structure protruding on the surface of the colon. Diverticulitis results from inflammation in one or more of the diverticula.

While diverticulosis is by definition considered to be of no particular significance—a mere incidental x-ray finding—still cognizance of its existence and correct management of the patient at this early stage may prevent future trouble from complications incident to diverticulitis. Diverticulosis is generally considered to occur in about 5% of all persons over the age of 40 and in about 6% of all patients with abdominal complaints. Various symptoms have been attributed to the presence of colonic diverticula, such as bowel irregularities, abdominal pain, flatulence and melena, but it is doubtful that these would be found unless inflammatory changes had already taken place. In the main, it would seem wise to advise patients in whom diverticulosis is found, without evidence of diverticulitis, to maintain bowel regularity and to avoid foods with high residue content. On such a regimen, it may be possible to circumvent the development of diverticulitis.

As previously stated, diverticulitis occurs when the colonic diverticula become inflamed. Smithwick has estimated that one patient out of ten with diverticulosis will develop diverticulitis, while Rankin and others at the Mayo Clinic placed the incidence at 15-20%.

The etiology of colonic diverticula is unknown, but various factors may be listed as contributing toward their development. These are:

1. The pouches may be congenital malformations.
2. Old age with its accompanying degenerative changes may influence their development.
3. Constipation with attendant increased gaseous distention may be a factor.
4. Excessive obesity and sometimes emaciation seem to predispose towards their development.
5. An inherent weakness of the colon wall may allow herniation of the mucosa through the muscularis. This is thought to occur primarily at the sites of entrance or exit of blood vessels in the bowel wall.
6. There may be a disturbance of the sympathetic nervous system which controls the affected part.

In the past, diverticula were considered to be acquired or congenital, but this distinction is artificial. The fact that most colonic diverticula are discovered only in the latter part of life would seem to lend weight to the theory that they are acquired.

Although the etiology of diverticulosis is unsettled, the causes of diverticulitis are more easily understood. Colonic diverticula occur primarily in the sigmoid colon (60-85%), although they are found in other parts of the colon (excluding the rectum). It is in the left colon that storage and dehydration of the fecal stream take place. Stasis of feces in the diverticula then allows putrefactive bacteria to set up an inflammatory process. Probably more important is the fact that the diverticula become filled with feces so that the neck of the sac is constricted,

*From the Surgical Service of the Stuart Circle Hospital and the Medical College of Virginia Hospital.
Read before the Medical Society of Virginia at Roanoke, October 13, 1947.

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resulting in obstruction to the outlet. A combination of these factors then may allow an inflammatory process to develop.

In classifying diverticulitis for a clinical discussion the following outline groups the various types in more or less chronological order.

I. Acute Diverticulitis
  A. Simple
  B. Complicated
    1. Gangrene
    2. Acute perforation
      a. Generalized peritonitis
      b. Abscess formation
    3. Obstruction
    4. Fistula formation
      a. Vesico-colic
      b. Other
    5. Metastatic suppuration
      a. Septicemia
      b. Pylephlebitis
II. Recurrent Diverticulitis
III. Chronic Diverticulitis
  A. Simple
  B. Complicated
    1. Obstruction
      a. Tumefaction
      b. Adhesions
    2. Peridiverticulitis, often with fistula formation
    3. Simulation of other disease.

ACUTE DIVERTICULITIS

Simple acute diverticulitis (called by Morton "diverticulitis with spasm") is often spoken of as "left-sided appendicitis". Symptoms of nausea, vomiting and abdominal pain simulate appendicitis, and if the inflammation occurs in a redundant sigmoid, the findings may even be on the right side. The treatment is medical, and with rest, antibiotic and antispasmodic drugs, and dietary restrictions, the acute attack usually subsides in a few days. The presence on physical examination of an inflammatory mass which subsides under observation is presumptive evidence of diverticulitis, but the only positive method of diagnosis is by roentgenologic studies of the colon.

CASE 1. F.C.N., a 49 year old white male, had always been well. He had an unusual attack of constipation prior to admission, and had had one attack of left lower abdominal pain a few months previously. For four days he had pain in the left lower abdomen and some fever. Physical examination revealed a fixed hard mass in the left lower abdomen, apparently the sigmoid colon enlarged by diverticulitis. He entered the hospital in May 1945 and after a week of rest, liquid diet and sulfadiazine the mass decreased markedly in size. Barium enema two months later revealed a marked diverticulitis of the descending colon and sigmoid with some diverticula rather large and thin-walled. (Fig. 1)

Fig. 1. Case 1, showing many diverticula in descending and sigmoid colon.

COMMENT. In the majority of cases, simple acute diverticulitis will completely subside on the proper medical regime. X-ray examination should be deferred until the acute stage has subsided, unless the diagnosis is in doubt.

When acute diverticulitis is accompanied or followed by complications, surgical intervention is frequently indicated. In some cases conservative, non-operative therapy will suffice. Spread of the inflammatory process from the region of the diverticulum itself or extensive necrosis of the wall of the diverticulum may lead to *gangrene, perforation, obstruction, fistula formation* or *metastatic suppuration*. The appropriate surgical therapy must be applied for these complications, and Jones advocates the simplest type of procedure which can be adopted.

CASE 2. E.C.M., a 34 year old physician, was well until November 1942, at which time he developed severe pain in the lower abdomen suggestive

of appendicitis. At operation the appendix was inflamed mildly on the surface. Exploration revealed thickened, inflamed sigmoid with an area on the right side of the pelvis where the sigmoid was gangrenous. No separate diverticula and no perforations were found. The appendix was removed and a large drain placed in the abdomen down to the gangrenous spot in the sigmoid. Follow-up barium enema showed diverticulitis. (Fig. 2)

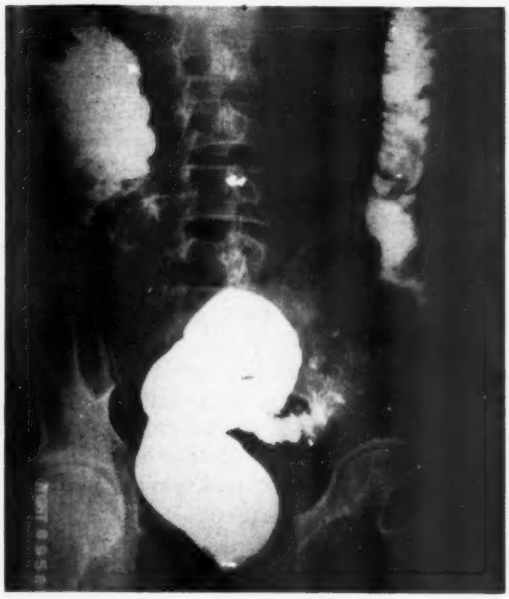

Fig. 2. Case 2, showing diverticula and marked spasm in the sigmoid colon.

COMMENT. In this instance the diverticulum was on the verge of perforation, and drainage (as in a case of abscess formation) was elected. As will be pointed out later, fecal fistulae may follow such a procedure.

Acute perforation of an inflamed diverticulum is the most feared of all complications. Fortunately it occurs in only a very few cases (about 2.5% of surgically treated cases). It may result in *generalized peritonitis,* with shock and death, or it may go on to walling off and *abscess formation.* In the first type, with generalized peritonitis, closure of the perforation is sometimes advocated, while others recommend simple drainage. In these days of improved chemotherapy, the use of antibiotics will undoubtedly lessen the high mortality rate. In those cases where abscess formation occurs, spontaneous drainage into the rectum may occur, but more frequently it is necessary to resort to surgical drainage.

CASE 3. S.T.M., a 63 year old minister, complained of violent abdominal cramps coming on during the night, and had some nausea and abdominal distention. There was a history of exploratory laparotomy and appendectomy five years previously. He entered the hospital in September 1940 and shortly before admission an enema produced a large amount of gas and afforded some relief. On the following afternoon, his temperature rose to 102°, and that night he was awakened by violent cramps and soon afterwards developed shock. Exploration revealed foul-smelling grayish fluid in the pelvis and an acutely inflamed and perforated sigmoid. This was exteriorized and an enterostomy performed. Postoperatively the patient went steadily downhill, remained in shock and died after three days.

COMMENT. Fulminating generalized peritonitis in an old man failed to respond to treatment.

CASE 4. R.P.D., a 43 year old railway employee, entered the hospital in October 1944 complaining of right lower abdominal pain for four days. His bowels had moved regularly, but he had had some nausea and vomiting. There were fever, pyuria and left flank pain, and sulfadiazine had been administered prior to admission. X-ray examination of the urinary tract and cystoscopic examination were negative. A mass developed in the left side of the abdomen which was thought to be an abscess secondary to diverticulitis. This mass was drained and a fecal fistula ensued. Barium enema revealed diverticulitis with spasm and a fistula from the bowel into the left flank. This fistula was later excised, and complete recovery took place. (Fig. 3)

COMMENT. Drainage of an abscess secondary to a perforated diverticulitis is often necessary but may be followed by fecal fistula. Excision of the fistula must then be performed.

Obstruction of the colon may result from extensive acute inflammation in an area involved with diverticula. Although obstruction is more prevalent with the chronic type of diverticulitis, it may be quite complete in the acute stage. Conservative treatment including gastro-intestinal siphonage, liquid diet and rest often is sufficient to relieve the obstruction. Colostomy for relief is usually not necessary in acute diverticulitis with obstruction.

CASE 5. L.R.W., a 46 year old claims agent,

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gave a history of occasional attacks of abdominal pain and constipation for several years. In January 1941 he developed severe abdominal pain and obstinate constipation. He was hospitalized be-

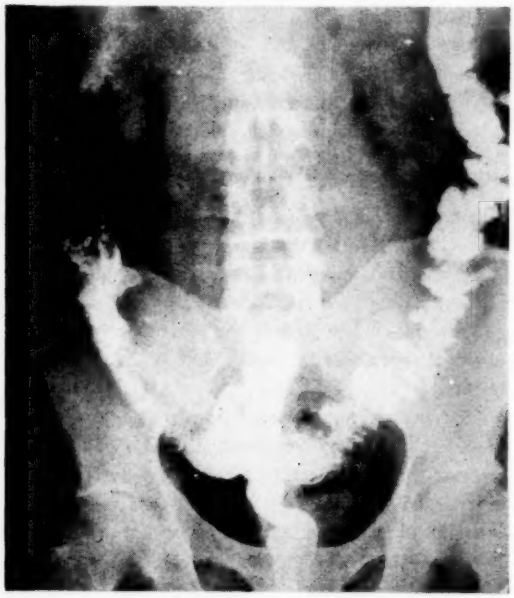

Fig. 3. Case 4, showing numerous diverticula and spasm throughout the colon and a fistula from the left side.

cause of acute diverticulitis of the sigmoid with obstruction. The obstruction was relieved by conservative measures, but barium enema showed marked diverticulitis with narrowing of the whole left colon, particularly the sigmoid. Repeat x-ray studies showed persistent narrowing of the colon, but the patient was asymptomatic after several months. (Fig. 4)

Fistula formation is one of the common complications found in acute diverticulitis. The close proximity of the sigmoid colon to the bladder, especially in the male pelvis, affords an opportunity for the development of fistulous connections between bladder and colon, and vesico-colic fistula is the type of communication most commonly encountered. The development of such a fistula may be anticipated when a patient with diverticulitis develops urinary symptoms and is found to have pyuria. Prompt attention at this stage may prevent actual development of a fistula. Other types of fistulae which occur in colonic diverticulitis are entero-enteric, entero-cutaneous, and fistulae into surrounding soft parts.

CASE 6. G.R.B., 66 year old foreman, had had severe cramp-like abdominal pain and soreness in the groin for a number of years. For one year he had had urinary frequency and was found to have pyuria. Two weeks before entry to the hospital he had more severe pain, followed by marked constipation. In July 1941 examination on admission revealed a large mass in the left lower abdomen extending to the midline above the bladder. Barium enema revealed almost complete obstruction at the upper end of the rectum, with a thin stream of barium going through a narrow channel 8 inches in length. On proctoscopic examination the lesion could not be visualized. He was treated with rest, diet restriction and sulfaguanidine, and improved considerably. The mass decreased in size and the urinary symptoms subsided. Repeat x-ray showed essentially the same picture. Exploration and colostomy were proposed, but the patient refused operation.

COMMENT. The presence of urinary symptoms in a case of diverticulitis suggests the presence of the threat of a vesico-colic fistula, and immediate treatment is indicated to forestall its development or to reduce the infection which is present.

CASE 7. E.C.M., the physician cited in CASE *# 2*, developed a persistent fecal fistula in the drain-

Fig. 4. Case 5, showing marked narrowing of the bowel and large diverticula on the left side of the colon.

age tract created when drains were placed down to the gangrenous spot in the sigmoid. In October 1944, approximately two years after the first operation, the sinus tract was explored, a fistula in the sigmoid closed, and the tract excised. Complete healing has resulted.

COMMENT. Drainage of an abscess or a gangrenous area in the bowel may result in fecal fistula. This must be eradicated by closing the area in the colon and excising the sinus tract or else by removing the involved segment of bowel, including the entire fistula. The latter procedure is nearly always necessary when vesico-colic fistulae are present.

Persistent contamination from an area of acute diverticulitis may lead to *metastatic suppuration* with septicemia or pylephlebitis as the result.

RECURRENT DIVERTICULITIS

Failure on the patient's part to follow the proper regime or failure on the doctor's part to pursue a vigorous program of therapy for acute diverticulitis often leads to recurrent attacks of acute inflammation. These patients can be managed medically unless complications arise demanding surgical intervention. On the other hand, Smithwick advocates resection of the involved segment of bowel for recurrent diverticulitis. In spite of the relatively high mortality rate in resections for diverticulitis, he found less failures from operative treatment and lower late mortality in the resected cases.

CHRONIC DIVERTICULITIS

The problem of chronic diverticulitis is one which is concerned not so much with emergencies or with life-saving surgical intervention, but rather it is one which presents the difficulty of increasing intestinal obstruction as scar formation and persistent inflammation are encountered.

The *simple form of chronic diverticulitis* can be handled adequately by conservative therapy akin to that for the acute type—i. e., rest, bland diet, antispasmodics and sulfa drugs.

When *chronic diverticulitis* is accompanied by *complications* requiring operative therapy, they present themselves usually in the guise of intestinal obstruction, and often carcinoma is suggested. *Obstruction* results from increasing tumefaction produced by chronic inflammation with scarring and from kinking around adhesions. When the obstruction is severe enough and persists despite adequate medical treatment, resection of the obstructed area preceded by decompressive colostomy must be carried out.

CASE 8. C.N., a 45 year old male, developed left sided abdominal pain and fever. A mass was found in the left lower quadrant and the patient was sent to the hospital. Barium enema revealed an extensive defect in the descending colon and diverticulosis. He developed constipation. Resection of the colon was carried out in May 1945, using the Rankin clamp, and at the time of operation carcinoma could not be ruled out by the gross appearance. The pathological examination however showed diverticulitis without cancer. Three months later the colostomy was closed, and uneventful recovery has ensued. (Fig. 5)

Fig. 5. Case 8, showing diverticula and obstructing lesion in the left colon.

COMMENT. In cases of chronic obstruction, where cancer cannot be ruled out and where the obstruction is progressing unfavorably, resection of the involved segment of bowel is indicated. When the obstruction is complete, decompression by colostomy, followed later by resection, should be performed. Even at operation it is often difficult to distinguish inflammation from cancer.

Peridiverticulitis, with inflammation of surrounding viscera and even fistula formation, is not infre-

quently found as a complication of chronic diverticulitis. Fistulae are more apt to develop in the acute attacks with the more fulminating inflammatory reaction. Stone advocates operation upon those cases under conservative therapy who develop urinary symptoms, in an effort to forestall the development of a vesico-colic fistula.

Simulation of other disease by diverticulitis in the chronic stages often presents problems which are difficult to deal with. Those diseases which most commonly are mimicked by diverticulitis are:

(1) Appendicitis
(2) Tumor of the ovary
(3) Pelvic abscess (tubo-ovarian)
(4) Carcinoma of the colon.

Quite frequently the gynecologist is completely fooled by colonic diverticulitis, and the true diagnosis is discovered only at operation. As Morton has pointed out, drainage of a pelvic abscess by colpotomy sometimes is followed by formation of a fecal fistula, which clears up only with resection of the involved sigmoid colon. Carcinoma of the sigmoid colon is most closely simulated by chronic diverticulitis, and this will be further discussed.

DIFFERENTIATION FROM CARCINOMA

To distinguish diverticulitis from carcinoma of the colon is almost impossible sometimes without operation, and even then on occasions doubt still remains about the correct diagnosis. From the x-ray standpoint, it is well to consider that diverticulitis rarely exists without demonstrable diverticula. Furthermore the involved segment is usually longer in diverticulitis than in cancer. Sigmoidoscopic examination is of limited value in the demonstration of diverticulitis or its differentiation from cancer. However Buie listed the following points as evidence for diverticulitis:

(1) Limited mobility of a segment of bowel which normally is freely movable;

(2) Angulation of the bowel which occurs near the site of diverticular involvement;

(3) Contracture of the lumen due to surrounding inflammation;

(4) Sigmoidal sacculation, formed by alternation of diseased and normal mucosal segments;

(5) Visualization of a diverticulum.

Whatever the criteria for differentiation, the diagnosis is particularly difficult with the chronic obstructing lesions, and it must be considered that these patients all fall into the so-called cancer age group. Gross bleeding from the rectum is another point which makes the diagnosis even more difficult. It was formerly regarded that rectal bleeding was very frequently found with carcinoma but rarely accompanied diverticulitis. Morton, Stone, and Bockus all point out the fact that gross bleeding is not infrequently associated with diverticular disease, and textbooks which formerly held that bleeding was rare in diverticulitis now say that it occurs in up to 20% of the cases. For safety's sake it would seem that the proper attitude would be to explore the patient in whom reasonable doubt existed, especially since most of the chronically obstructed cases must sooner or later be resected. The association of cancer and diverticulitis is not frequent, but it must be remembered that except for the rectum the sigmoid is the most common site for cancer of the colon, and diverticulitis also most often is seen in the sigmoid.

Illustrative of the confusion which may occur in the differential diagnosis between diverticulitis and cancer is the following case.

CASE 9. R.A.P., a 70 year old single white female, had had an x-ray diagnosis in April 1940 of extensive diverticulosis of the colon, particularly the sigmoid. In March 1946 she had an acute attack of abdominal pain, constipation and fever of a week's duration. She had had similar attacks in the past. There was a tender mass in the left lower abdomen. On conservative treatment this attack subsided, but she was seized again three months later, and this time had urinary frequency. She began to pass gas through the urethra. Cystoscopy showed what appeared to be a vesico-colic fistula. X-ray examination of the colon showed an obstructing lesion in the sigmoid which was interpreted as being due to inflammation. At operation in August 1946 the bladder fistula was excised and when the sigmoid was mobilized it was seen to contain a colloid growth which had invaded the pelvic wall. The lesion was widely excised using the Rankin clamp, and pathological examination revealed adenocarcinoma, Grade II. The colostomy was subsequently closed, and the patient has done well since then.

COMMENT. Here, a patient who was known to have diverticulosis had recurrent attacks of what appeared to be diverticulitis and after several years developed a vesico-colic fistula. Barium enema showed obstruction in the sigmoid which was con-

sistent with diverticulitis, and yet at operation a carcinoma was found. It is possible that the carcinoma developed as a result of the chronic inflammation in the area involved by diverticulitis, but this association is not the usual thing, and it is more likely that this was a coincidental occurrence.

TREATMENT

From the foregoing discussion, it can be deduced that in simple uncomplicated diverticulitis the proper treatment is medical. Brown found that it was impossible to predict which cases of diverticulitis would need surgical treatment and which would get along well on a medical regime. In those cases operated upon, medical therapy was a complete failure in the majority of instances. Of 92 cases operated upon over a 10 year period, 54 or over one-half had had symptoms for less than one year, and operation was made imperative by the rapid progression of the disease. However, it has already been pointed out that of all cases of diverticulosis only 10-20% will develop diverticulitis, and only 10% of the cases of diverticulitis will require operative intervention. Thus this is primarily a disease to be handled medically. The proper regime should consist of absolute rest (bed rest until all symptoms and signs have disappeared), heat to the abdomen (including diathermy and Elliott therapy), restricted diet, and mild laxation. To this can be added the use of those sulfa drugs which sterilize the bowel (sulfaguanidine, sulfasuxidine, and sulfathalidine) and of penicillin. Brown states that in patients so treated 63% will be cured and the other 37% materially helped.

Operative treatment must be applied to the complicated cases and those which fail under adequate medical therapy. The indications for surgical intervention are:

1. Perforation with peritonitis.
2. Abscess formation.
3. Intestinal obstruction.
4. Actual or impending fistula formation.
5. Oft-recurring diverticulitis.
6. Indistinguishability from cancer.

The operation of choice for each of these complications is determined by the type of case, but as Jones has pointed out, the simplest is the safest procedure.

For acute perforations with *abscess formation* and for *gangrene of the bowel,* the treatment of choice is drainage, and if fecal fistula persists this can be attended to later. When perforation leads to *generalized peritonitis,* a grave situation is at hand and treatment can be either non-operative, with fluid replacement and massive doses of penicillin, or operative, with drainage, depending on the case. *Vesico-colic* fistula is one of the most troublesome complications. Occasionally this can be cured by putting the bowel completely at rest with colostomy, after which the fistula may close spontaneously. If this is not the case, the treatment of choice is resection of the involved area in the sigmoid. Simple excision of the fistula and closure of the perforation in the colon rarely cure vesico-colic fistulae. Resection of the bowel is also indicated in cases of *chronic obstruction, recurrent diverticulitis* and *inability to differentiate from cancer.* When obstruction is present, colostomy should be performed, and if the involved segment remains obstructed after several months of rest with the colostomy, resection should be undertaken. The type of resection to be performed must be decided individually, but all carry a fairly high mortality rate. On the other hand, there are fewer failures to cure and the late mortality rates are lower in the resected cases. The obstructive (Rankin) type of resection is the safest method, taking into consideration the operative risk and the amount of inflammation likely to be present.

MORTALITY AND PROGNOSIS

Although the mortality ratio in the surgical treatment of diverticulitis remains high, the general outlook has become much more hopeful since the institution in recent years of modern chemotherapy. Prior to 1939 the overall surgical mortality was between 15% and 20%. Smithwick reported that the mortality rate from resection was 17.1%, but in these cases the cure rate was 76.1% and the late mortality from the disease only 3.7%. Colostomy alone failed to cure 45% of his series. Brown reporting 191 cases treated at the Mayo Clinic found a total surgical mortality of 18.3%, with failure to cure in 17.8%. This figure was later lowered to 14.7%, and Pemberton has recently reported that the mortality rate from all surgical procedures in diverticulitis at the Mayo Clinic has now been reduced to 4.2%. He attributes this entirely to the use of sulfonamide compounds and penicillin, resulting in marked reduction in post-operative infections. The addition of streptomycin to the presently available

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armamentarium may effect even further reduction in the mortality from the surgical treatment of diverticulitis.

SUMMARY

Diverticular disease of the colon is rare before the age of 40, but occurs in 5% of all people over 40 and in 6% of patients with abdominal complaints. Diverticulosis is in itself a harmless condition and is usually an incidental x-ray finding. However, failure to institute proper medical care may allow inflammatory changes to occur in the diverticula. Diverticulitis develops in about 10-20% of the cases of diverticulosis, and about 10% of these patients eventually need surgical treatment.

Medical treatment, consisting of rest, antispasmodic drugs, dietary restriction and drugs to sterilize the intestines, is sufficient to manage simple uncomplicated diverticulitis. The diagnosis in unoperated cases cannot be properly made without x-ray confirmation.

Surgical treatment should be reserved for those cases in whom complications arise. The indications for operative intervention are:

(1) Perforation with peritonitis,

(2) Abscess formation,

(3) Intestinal obstruction, particularly in the chronic cases,

(4) Actual or impending fistula formation, particularly vesicocolic fistulae,

(5) Indistinguishability from cancer.

The type of operation should be selected for each case individually. Abscesses should be drained. Perforations with peritonitis require drainage or conservative treatment with intestinal suction and massive penicillin therapy. Colostomy should be performed in cases of chronic obstruction and of fistula formation. Resection is reserved for obstructed cases (preceded by colostomy for decompression), for vesico-colic fistulae, and for those instances where carcinoma of the colon is suspected.

The association of diverticulitis and cancer is not frequent, but both are accompanied by bleeding and both occur most commonly in the sigmoid (if the rectum is excluded). When carcinoma cannot be ruled out resection of the involved segment is indicated.

The mortality rate for the operated cases has been reduced from around 18% prior to 1939 to around 4% since the institution of sulfonamide compounds and penicillin. Colostomy alone fails to cure about half the cases in which it is employed without further operations. The addition of streptomycin to the drugs now employed may cause further reduction in the surgical mortality from diverticulitis.

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DISCUSSION

DR. BENJAMIN W. RAWLES, JR., Richmond: It is timely that the Doctors Williams have brought this subject to our attention. They have concisely, but thoroughly, presented the many aspects of the subject. The problems of diverticulitis of the colon and the complications of the disease are not as difficult from the standpoint of surgical management as they once were for a number of reasons. We are now able to combat and control infection more successfully with modern chemotherapeutic agents and antibiotics. The surgeon also is better able to maintain his patient in nearly normal physiological balance with infusions of water, electrolytes, proteins, and vitamins, and transfusions of plasma and whole blood. Improved

surgical technique and modern anaesthesia have also been of inestimable value.

Perforation of a diverticulum with generalized peritonitis still carries a high mortality, as was illustrated in the case report, in spite of the improvements in surgical therapy that were noted above. It is possible, however, today to radically extirpate the primary pathology in the chronic forms of the disease with greater safety to the patient. There was a time when surgical intervention other than to do a proximal colostomy carried an almost prohibitive mortality. Pemberton's recent mortality figures from the Mayo Clinic in the management of chronic diverticulitis by radical surgery are most encouraging and indicate what can be expected in the future from the surgical removal of segments of the colon involved in chronic diverticulitis.

Proximal colostomy preliminary to resection by exteriorization or resection and immediate end-to-end anastomosis still has a very important place in the surgical management of chronic diverticulitis with or without obstruction or with or without fistulae formation.

DR. WILLIAMS, SR., closing discussion: Perhaps the most important thing in connection with diverticulitis of the colon is for the physician to have in mind the frequency of diverticulosis and to consider the possibility of this disease in patients complaining of constipation and pain in the left abdomen. The complications should also be remembered, particularly the attachment of the inflamed sigmoid to the urinary bladder. Not infrequently the presenting symptom of bladder irritation will lead one to the discovery of inflamed diverticula. The patients for whom operation is necessary make a small percentage of the total number of cases seen. As brought out in the paper and emphasized by Dr. Rawles the mortality rate has improved markedly since the advent of the new drugs, and the number of cases developing complications which require surgical intervention will certainly be reduced by the use of these drugs.

New Books,

Recently received at the Library of the Medical College of Virginia, which are available to our readers under usual library rules, are as follows:

Amer. Assoc. for the Advancement of Science—Approaches to tumor chemotherapy.

Bauer, Bond and others—Teaching Psychotherapeutic medicine.

Bergey's manual of determinative bacteriology. 6th ed.

Beveridge—The cultivation of viruses and rickettsiae in the chick embryo.

Blau—The master hand: a study of the origin and meaning of right-and left-sidedness and its relation to personality and language.

Clarke-Kennedy—Medicine. Vol I.

Burnet—The background of infectious diseases.

Gordon and others—The biology of melanomas.

Grüneberg—Animal genetics and medicine.

Hellebrandt and Duvall—Organizing for clinical procedure in physical therapy.

Hill and Dameshek—The Rh factor in the clinic and the laboratory.

Himsworth—The liver and its diseases.

Joslin—Treatment of diabetes. 8th ed.

Markley—Fatty acids.

Ogden—The kingdom of the lost.

Troncoso—Gonioscopy.

Trueta and others—Studies of the renal circulation.

Nurses Handling Streptomycin May Develop Sensitivity to Drug.

Nurses, pharmacists, laboratory technicians and others concerned with the administration or handling of streptomycin are in danger of developing a sensitivity to the drug, three doctors state in the February 28 issue of *The Journal of the American Medical Association.*

The writers are Solomon M. Rauchwerger, M.D., Frederick A. Erskine, M.D., and Walter L. Nalls, M.D., from the Department of Medicine and Surgery, Veterans Administration, Oteen, N. C. The report that when over a period of 20 months streptomycin was administered to 233 patients in the tuberculosis hospital at Oteen, N. C., six nurses developed such a sensitivity. In every case the first symptom was a rash on the hands, followed by intense itching. Five of the six nurses also showed involvement of the area around the eye socket. Pyribenzamine proved more effective than benadryl for relief of symptoms.

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RHINOSPORIDIOSIS OF THE CONJUNCTIVA—CASE REPORT*

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and
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Richmond, Virginia.

We believe this is the first case of rhinosporidiosis to be reported in the State of Virginia and the sixth case involving the conjunctiva to be reported in the United States. Because of its infrequency and the lack of knowledge concerning the disease, we feel justified in reporting this case, reviewing and briefly summarizing the literature, even if it is so rare, that it might be considered a medical curiosity. It would appear that the total number of cases reported from all countries does not exceed two hundred, and the number reported in North America would not exceed eighteen or twenty.

Rhinosporidiosis is a local fungus infection of the mucous membranes caused by Rhinosporidium seeberi. The mode of infection is not known. Because of its predilection for the mucous membrane of the nose and conjunctiva, some have thought it might be air or water borne, but this has not been proved, and experimental evidence has been negative; neither has any one been able to transfer the organism to monkeys, rats, mice, guinea-pigs, or rabbits.

Its geographic distribution is interesting. The first cases were studied by Seeber in Argentina in 1895, but most of the cases have been reported from India and Ceylon. Additional cases have been reported from South Africa, Uruguay, Philippine Islands, and the United States, and one case of conjunctival involvement has been reported from Europe.

The disease is confined mostly to the male sex, and it occurs spontaneously in the following animals: horses, mules, and cattle; and, strangely enough in these lower animals, practically all of them have been males. It is believed that human infection is gotten from infected animals, namely, horses, mules, and cattle, because the same organism has been recovered from the noses and nasal polypi of the above mentioned animals. More cases have been reported from Texas than any other State and, since this is a live-stock state, an animal reservoir may be responsible.

The most common site of infection is the anterior nares. It is also found in the conjunctiva, larynx, uvula, aural meatus, lachrymal sac, and penis. It is believed that lesions occurring in remote sites from the nose or eye may be due to autoinoculation. The usual nasal lesion is a single polyp with a distinct pedicle, though it may be sessile or partially pedunculated. There are at times multiple polypi, and their shape, size, and consistency will vary with the size of the nostril and the duration of the infection. The growth is soft and vascular, somewhat like exuberant granulation tissue, and varies in color from pink to purple red. It is much more vascular than the ordinary nasal polyp and may bleed freely when touched or probed. On close examination, the surface of the growth is seen to be covered with minute white granules, and this should always lead one to suspect sporidial infection. These white granules are the sporangia. The disease apparently causes few, if any, systemic symptoms—only the local symptoms that one would expect from nasal blocking due to a polyp, and perhaps frequent nosebleeds.

The first report of Rhinosporidium seeberi infection of the conjunctiva occurring in North America was reported by Anderson and Byrnes[1] in 1939, but infections of the nose with this organism had been previously reported in this country. The first case ever to be reported in North America was by Wright[2], of Tennessee, in 1907. Since 1939, four other cases of Rhinosporidiosis involving the eye have appeared in the literature—Those of Griffey[3], Elles[4], Barnshaw and Read[5], and Arnold and Whilden[6].

The case which we now wish to report, infection of the conjunctiva, would appear to be the sixth one to be recorded. J. H., a typical American white boy was brought to my office (Edmunds) and stated that he had a growth on his left eyelid. He was twelve years old, appeared perfectly healthy, and had few or no complaints except at

*Read before the annual meeting of the Virginia Society of Ophthalmology and Oto-Laryngology, at Virginia Beach, May 10, 1947.

times a mild irritation of the left eye and a sensation as if something was rubbing against it. The external appearances of both eyes were normal, and nothing could be seen until the lower lid was everted and there was a reddish partially sessile growth originating from the conjunctiva of the lower lid in its outer third. The surrounding conjunctiva was not injected; the growth was painless and measured about 6mm. by 6mm. by 8mm. Tne father stated that the growth had been removed on two previous occasions but had returned. The appearance of the lesion looked somewhat like granulation tissue or a granuloma, such as is often seen from a ruptured infected chalazion; but, on the other hand, it did not look quite like it, and feeling that this might be something unusual or different, I thought it should be examined microscopically after its removal. I was thinking in terms of a malignancy, even though the age of the patient would have been against it, and certainly not thinking in terms of a sporidial infection, because at that time I had no knowledge of any such type of infection occurring in either the eye or the nose.

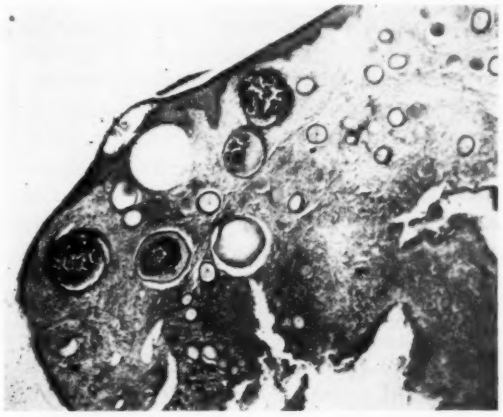

Fig. 1.—Approximately forty trophic forms of various sizes, 40 to 150 microns in diameter, can be seen in this slide. There are six sporangia present, four of which contain spores. One mature sporangium is seen at the surface discharging spores through the epithelial layer.

There appears to be no specific treatment for this condition. Removal of the polyp from the nose by snare is usually followed by recurrences; however, complete excision and removal of the growth, by whatever means one prefers, followed by cauterization of the base with the electric cautery would seem to be the best treatment so far available.

While this disease appears quite rare, perhaps more cases would be found and diagnosed if more nasal polypi were examined microscopically, and we should not lose sight of the fact that sporidial infection may be the etiological factor in some of the nasal polypi which we are seeing.

For those interested in a thorough study of this condition, reference is made to an exhaustive report by Elles[4] and also one by Pasternack and Alexander[7]. Pasternack and Alexander, in their excellent article appearing in the *Archives of Oto-Laryngology,* June, 1938, summarize the essential features as follows:

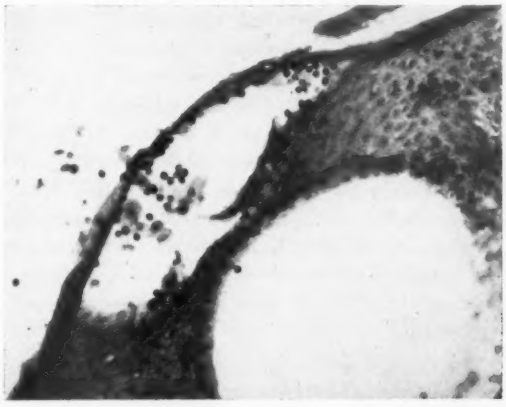

Fig. 2.—This slide is a high magnification of the mature sporangium discharging spores through the epithelial layer.

"Rhinosporidiosis is a fungus infection primarily of the nasal mucous membrane in man, cattle, and equines. It produces a polypoid growth resembling granulation tissue which bleeds readily on slight manipulation. Infections of the conjunctiva, lachrymal sac, ear, pharynx, uvula, larynx, penis, and skin have been described. These, with few exceptions, represent autoinoculation with infectious material from the nose. The disease has been reported from India, Ceylon, the Philippine Islands, Africa, Europe, South America, and North America (United States). The source of infection is unknown. The disease may be water borne. The disease prevails in young males Epistaxis, progressive obstruction, and chronic nasal catarrh are the chief symptoms. An early single growth in an accessible situation is satisfactorily treated by excision, provided the surrounding healthy tissue is removed. Multiple growths and an inaccessible growth require extensive operations with the electric cautery. The growth has a great tendency to recur."

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PRESENTATION OF SLIDES AND DISCUSSION BY DR. BECK

The specimen received from Dr. Meade Edmunds of Petersburg, Virginia, was from the conjunctiva of J. H., and was preserved in 5% formalin. The specimen measured 6x6x8 mm., was grayish in color and had distinct papillary structure. A rapid frozen section stained with Terry's polychromenethylene blue showed a papilloma with very little papillary branching or crypts. The striking finding was the presence of numerous round, thick rimmed, double contoured, sharply defined cystic bodies of various sizes in the stroma of the growth. There was a moderate round cell infiltration around some of the medium sized cystic bodies and the stroma of the polyp was moderately vascular. These cystic bodies are the trophic stages and immature and mature sporangia of Rhinosporidium seeberi. The histologic picture is striking and diagnostic.

The details of the youngest forms, the spores, are best studied with the oil immersion, although they can be readily seen with the high power. They are round or oval cells 6 to 9 microns in diameter (approximately the size of a red cell) with a relatively thick, clearcut, refractile wall, vacuolated cytoplasm, a distinct vesicular nucleus and karyosome. These spores can be seen being liberated from the sporangium, anywhere in the interstices of the stroma of the polyp, occasionally in the macrophages and in the epithelium. As the organism enlarges the cytoplasm becomes heavily granular. When it reaches a diameter of 40 to 50 microns, nuclear division begins. The daughter nuclei repeatedly subdivide, while the entire cyst continues to increase in size. Cytoplasmic division finally occurs at a cyst diameter of about 120 to 140 microns, and there results a sporangium filled with a great number of spores. The spores expand and distend the sporangium to a final diameter of 250 to 300 microns. There may be as many as 1600 spores in a mature sporangium.

In about the middle of the developmental period of the sporangium there is an annular thickening of the wall about a point that is destined to become a pore through which the spores will be discharged after maturation. This pore is directed toward the surface of the polyp. The spores nearest the pore enlarge and differentiate first; those at the opposite side remain small and immature and lie in mucoid matrix. The individual spores are easily seen on this slide. These spores may be found in the tears and in nasal secretions.

The entire cycle of development within the human host is shown in these two slides There may be other cycles in other hosts or the discharged spores may develop into encysted forms to be carried by some means to a new host. How infection occurs is not definitely known.

The exact classification of Rhinosporidium has not been determined. Some authors say it belongs to the Sporozoa; others, that it should be classed with the Phycomycetes. No flagellated or other active motile stage of Rhinosporidium is known. It has not been possible to grow this organism on artificial media. All experimental efforts to inoculate animals have failed.

There are only about 200 cases of Rhinosporidiosis reported from widely separated parts of the world. Probably one reason so few cases have been reported is that polypoid growths of the nasal mucous membrane, conjunctiva, and pharynx are so common and their association with non-specific types of chronic inflammation is so generally accepted that they rarely receive more than routine attention and are rarely submitted to the laboratory for microscopic study.

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THE TREATMENT OF PEPTIC ULCER*

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In order to better understand the rationale of treating stomach disorders, it might be well to briefly review the anatomy and physiology of the stomach and duodenum. The stomach is divided for physiological observation into the body and the pyloric end of the stomach. These two are separated by a notch at the lesser curvature called the incisura angularis, and a line drawn from this point to one opposite on the greater curature divides the two portions of the stomach. On the right of this line is the pyloric portion of the stomach, and to the left is the body. Both the pylorus and body are divided by some observers into subdivisions. The pylorus is often divided into the vestibule and the antrum which have essentialy the same function, and such subdivision seems unnecessary. For practical purposes the pyloric portion should consist of the antrum and the pyloric canal. The body is divided into several sections. That portion of the stomach just above a line drawn from the esophagogastric junction to the greater curvature is called the fundus and is usually filled with gas when viewed by x-ray, while the area immediately around the esophageal opening is the cardiac area.

The stomach wall is composed of a serous, muscular, submucous and mucous layer. The serous coat is derived from the peritoneum and supports the larger blood vessels and nerve trunks which supply the stomach. The muscular coat contains three layers. The thin longitudinal fibers form the outer layer, while the middle and heaviest layer is made up of the circular muscles. These circular fibers are more prominent in the pyloric end of the stomach, and it is from these that the pyloric sphincter arises. Hypertrophy of these fibers in the pyloric sphincter produces congenital pyloric stenosis in the new born. The oblique fibers are more numerous toward the fundus of the stomach where they form a third muscular layer which is the inner layer of the muscular coat.

The stomach is lined throughout with tall columnar epithelium. The corium of the mucosa is composed of closely packed tubular secreting glands which open on the surface with wide mouth crypt-like ducts. These columnar cells contain mucin in the form of granules and globules, the chief function of which is the secretion of mucin which acts as a protective and lubricating agent. The gastric glands vary in different portions of the stomach and are known as the fundic glands, the pyloric glands, and the cardiac glands. The pyloric and cardiac glands secrete chiefly mucin and alkaline substances while the fundic or glands of the body are the ones which secrete pepsin and hydrochloric acid. It is well known that the dominating factor in the development of gastric and duodenal ulcers is the direct result of the pepsin and hydrocholoric acid content of the gastric juice, and therefore the term "peptic ulcer" for these ulcers which develop in the stomach and duodenum is well chosen.

The external nerve supply is from both sympathetic and parasympathetic nerves. Within the stomach are the myenteric or the Auerbach's plexus, which lies between the longitudinal and circular muscular coats and the Meissner's plexus which is directly under the mucosa. The extrinsic nerves of the stomach are from the vagus and sympathetics. The vagus carries mainly stimulating fibers. Vagus stimulation produces more secretion from the glands along the lesser curvature while the stimulation of the sympathetic produces secretion of alkaline from the pyloric and cardiac glands.

It is well to note that the stomach of an experimental animal can be separated entirely from its external nerve supply and that after a few weeks will re-adjust itself fairly well, so it may function under its own local nerve supply. Sham feeding produces no secretion when the vagus has been completely divided; but meat, meat extracts, and breakdown products of protein, such as peptone and proteosis produce secretion by direct contact with the gastric mucosa even after vagus resection. The food in the stomach apparently causes the local stimulus which produces an increased secretion. The amount of secretion will vary depending upon the type of food put into the stomach, which

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shows that the secretion is not merely dependent upon pressure on the mucosa or distention of the gastric walls.

Hughson has shown that a marked reflex pylorospasm may be induced by injury to the peritoneum, but that section of the vagus nerve just below the diaphragm or along the lesser curvature of the stomach will relieve this pylorospasm as the reflex arc is broken. This first observation explains the frequent nausea and vomiting in intra-abdominal infections in which the peritoneum is involved as is found in acute appendicitis, peritonitis, and so forth.

The actual secretions of the stomach, strange to say, have but little to do with most gastric symptoms. Achlorhydria, if it exists for a long time, may cause fermentation in the stomach and duodenum, with increased bacteria flora because the hydrocholoric acid is bactericidal, but even then with a careful diet the symptoms are comparatively slight. Routine examination of the stomach contents, even in younger people, has shown that there is a larger percentage of individuals with low acid or even achlorhydria than has been usually supposed. When the achlorhydria is intrinsic in the stomach, the treatment by giving hydrochloric acid is obvious. When, however, it is due to other causes, such as cancer or a diseased gallbladder, removal of this cause must be the first therapeutic procedure.

Of the different forms of indigestion, probably the most characteristic is the so-called "hunger pain". This comes on usually with clock-like regularity two or three hours after a meal when the stomach is almost empty. Its etiology has never been satisfactorily ascertained, though Cannon has demonstrated that the direct cause of hunger pain is excessive gastric contraction. It is known, however, that this usually occurs when the value of the hydrochloric acid in the stomach is high, after the food has been emptied, and the normal secretion of hydrochloric acid continues. Hunger pains may be due to the action of the acid upon the tissues of the peptic ulcer which have been already sensitized by the inflammation, though a wound in the stomach which exposes a raw surface does not usually produce this type of discomfort. At any rate, efforts which tend to lower the acidity of the gastric juice, such as giving bland food, alkalies, or a Sippy diet, usually relieve these symptoms.

Hunger pains are not always due to peptic ulcer. W. H. Higgins reviewed 162 consecutive abdominal operations at St. Elizabeth's Hospital in Richmond, Virginia, in which there seemed to be some symptoms of disturbed digestion. Of these, there were 33 cases of chronic cholecystitis of which five, or 15.4 per cent gave a definite history of food relief. Of 47 cases of chronic appendicitis, seven, or 17.5 per cent showed food relief. In 34 cases of combined chronic cholecystitis and chronic appendicitis, three or 8.6 per cent gave a history of food relief. "The interesting feature of this summary is the relative frequency of hunger pains in gallbladder, appendiceal and duodenal infections. Relief of pain by ingestion of food has been generally recognized as a cardinal symptom of duodenal ulcer, and has served as one diagnosis of this condition. It is rather remarkable that slightly less than one-half of the ulcer cases in our series gave this history. We may assume from this low percentage that a duodenal lesion alone is not the sole provocative factor, and it becomes more apparent when we find the same symptoms in from eight to seventeen per cent of the chronic gallbladder and appendiceal cases."

As for the medical treatment, the diet for a peptic ulcer is quite well known. The use of bicarbonate of soda, except in very occasional instances, should be avoided. The frequent taking of bicarbonate of soda often causes an alkalosis while it actually increases the secretion of the stomach and may eventually produce a gastritis. The better treatment is with the use of foods, using the Sippy diet as the basis and modified to suit the case. It is important that the food be soft and smooth, as it has been shown experimentally that rough food in artificially created ulcers in a dog prolongs the healing, so such foods as lettuce, celery, corn, cabbage, and so forth, should be avoided. In the administration of alkalies, however, the best medicine for continuous use is usually some form of carbonate of magnesia or a powder or tablets composed of calcium carbonate, magnesium carbonate and bismuth subcarbonate. These may be taken almost indefinitely without injury to the gastric mucosa and with but little danger of alkalosis. Preparations or derivatives of belladonna are often helpful.

In addition to diet and medications, avoidance of tobacco and alcoholics is important. The ulcer individual must be educated to live less strenuously with as little nerve tension and worry as possible, and there should be satisfactory rest periods both at night and during the day.

Peptic ulcers both gastric and duodenal are more frequent in males than females. Recently Crider and Walker reported some of their observations which showed that the gastric mucosa of women reacts less to external stimuli than the gastric mucosa of men. They contend this is one of the chief causes for the lower percentage of ulcers in women.

The physician who treats a peptic ulcer of the stomach indefinitely by medical means assumes a very grave responsibility. Even though relief may be satisfactory within a few weeks, there may be a recurrence. Here the examination by a competent roentgenologist is highly important. Probably one of the most dangerous influences in cancer of the stomach is friendship, and this may include not only the lay friends of the patient but also the doctor friends who do not wish to face disagreeable facts. Practically all early cases of cancer of the stomach are relieved by medical treatment at first; so relief of symptoms by medical treatment is not a therapeutic test in early cancer.

Although symptom-free, a gastric ulcer that does not completely disappear roentgenologically after six weeks of intensive medical treatment should be removed surgically. In these cases because of the possibility of cancer, a partial or total gastrectomy, depending upon the extent of the lesion, is the only operation to be considered. In one of our larger eastern clinics it was the custom to treat gastric ulcers medically for a much longer time. Recently, they had two cases which were thought to be benign but developed into malignancy while under treatment, and now they advocate resection on all gastric ulcers without any trial on medical treatment. However, I think this is a little too radical. The following case report illustrates the improvement shown by even extensive carcinoma of the stomach under medical treatment.

CASE NO. 1. Mr. E. G. C. a man 61 years of age, complained of indigestion over a period of some years. In September, 1946, he was seen by an internist who suspected gastric ulcer or malignancy. X-ray examinations revealed a large ulcer involving the lesser curvature and the posterior wall of the stomach. It was thought to be malignant, and immediate operation was advised.

The patient refused operation but started on medical treatment. Within a few months he gained fifteen pounds and said he felt better than he had for several years. He returned to work in his usual position as a chemist for nine months. At that time he noticed a small right inguinal hernia and consulted a local surgeon who advised repair of the hernia which was done under local anesthesia. The patient had no other complaints at that time and did not give a history of his gastric complaints of the year before. He made a satisfactory immediate convalescence from the operation, but several days after returning home developed a good deal of indigestion with nausea and vomiting. At that time he was x-rayed and was found to have a very extensive carcinoma of the stomach involving the pyloric half of the stomach. He again refused operation as he improved following gastric lavage and transfusions.

Three months later, a year from the date he was first advised to have an operation, he developed almost complete obstruction of the pyloric end of the stomach. After a short period of supportive treatment an exploratory laparotomy was done, not with the idea of resecting the growth, but rather of relieving the obstruction. At operation it was found that the patient had extensive carcinoma of the stomach involving the anterior and posterior walls from just below the esophago-gastric junction down to the pyloric end of the stomach. The pyloric sphincter was not involved. The lesion had advanced so far that even a gastro-enterostomy was impossible, and the abdomen was closed after securing a specimen for biopsy. The biopsy showed a high grade type of malignancy.

In a report on the surgery of the stomach and duodenum for 1945 at the Mayo Clinc, it is noted that up to sixty per cent of all gastric ulcers admitted to the clinic were operated upon; and of these, fifteen per cent of the lesions thought to be benign, at operation proved to be malignant. They reported a mortality of 2.1 per cent in their results of gastric ulcers. The recurrence of gastric ulcers following gastrectomy is very low. In fact, seldom if ever does a benign gastric ulcer recur following resection. This unfortunately is not true in duodenal ulcers.

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When a peptic ulcer develops within the grasp of the pyloric sphincter, or has penetrated into the pancreas, it is usually but little affected by medical treatment and demands surgery. In an individual who has a duodenal ulcer which shows no signs of perforation, bleeding, or obstruction, medical treatment can be continued for some time, but if one of these occurs operation should be considered. A patient over 45 years of age should not be allowed to bleed the second time, but more temporizing can be done in the younger age group. When an operation has been decided upon, there are four types of operations that may be done; namely, gastro-enterostomy, pyloroplasty, gastrectomy, and vagotomy.

Gastro-enterostomy was the operation of choice in the period from 1910 to 1920. It was done quite extensively with excellent immediate results. Unfortunately, approximately twenty per cent of these cases later developed gastrojejunal ulcers. These marginal ulcers developed anywhere from one to twenty years after operation. Montgomery and Kirshbaum reported a study of eight necropsies in which death resulted from a jejunal anastomotic ulcer. In one of these cases there was a recurrent ulcer around the stoma and death resulted from hemorrhage seventeen years after resection. In this case a Billroth II operation had been done. In other cases they noted jejunal ulcers after posterior gastroenterostomy occurring nine, eleven, fifteen, and twenty years after operation. For this reason it must be obvious that a perforation or hemorrhage from gastrojejunal ulcer after either a Billroth II type of gastric resection or gastro-enterostomy is an ever present danger. Because of this secondary complication a gastro-enterostomy alone is now seldom done in the presence of an active ulcer in young individuals. However, it is the operation of choice in elderly people with low acid who show obstruction of the duodenum with gastric retention after twenty-four hours.

Because of the failure of gastro-enterostomy, a pyloroplasty type of operation was tried. By this operation the pyloric end of the stomach was enlarged and the sphincter divided so the stomach would empty more readily, and also there would be regurgitation of the alkaline duodenal juices into the stomach. This would reduce the total acid content of the gastric and duodenal secretions. In certain rare cases this operation is still of value although generally it has fallen into disrepute. Now it is used only where there is an ulcer on the anterior part of the duodenum with mild duodenal obstruction and low acid, or in conjunction with an abdominal vagotomy.

It has been stated that in order to prevent recurrences of peptic ulcer after an operation, it is desirable to have an absence of hydrochloric acid in the gastric juice. With this in view it has been assumed that an extensive excision of the stomach is always indicated. However, in this assumption nature's attempt at a physiologic balance seems to have been ignored. It is well known by physiologists that if kidney tissue is reduced in stages, an experimental animal can live in apparently good health after excision of about three-fourths of the kidney structure. This, however, must be done at intervals to permit a compensatory hypertrophy and hyperplasia. Somewhat the same procedure can be carried out with the liver. The same principle is clinically involved when extensive pathologic lesions of a viscus have gradually thrown the physiologic functional burden on the normal portion which could not stand the strain if this were done suddenly. If a large part of an important viscus is removed, but not enough to cause an immediate fatality, the remaining portion increases to meet the functional deficit. It seems highly probable, then, that after excision of one-half to two-thirds of the stomach the remaining portion of the stomach regenerates so that the secretion of hydrochloric acid may be eventually increased to compensate for the tissue removed. Consequently, an analysis for free acid in the gastric juice done in a few weeks or a few months after a Billroth II type of operation may show no acid; but a year or several years later, if proper allowance is made of the neutralization by the duodenal contents, the hydrochloric acid secretion of even the small remaining portion of the stomach will doubtless be greatly increased over what it was soon after the operation.

It is also well established that the resistance of the intestinal mucosa to the irritating effect of the gastric juice decreases from the duodenum to the colon. Consequently, when the jejunum is applied to the stump of the stomach, there is apposed to it mucosa which is more susceptible to the irritation of the acid than the mucosa of the duodenum. The reason the duodenum is more subject to ulcer is

not that it is more susceptible to the influence of the acid of the stomach, but that it receives the brunt of the emptying impact of the stomach. If the duodenum were as susceptible to the acid of the gastric juice as the middle of the jejunum is, probably all of us would have duodenal ulcers. Particularly does it seem undesirable to use a Billroth II type of operation for peptic ulcer in patients with a high hydrochloric acid content in the gastric juice.

That the Billroth II type of operation is not well suited to intractable ulcers would seem to be indicated by the recent reports of Jordan and the Mayo Clinic. Jordan has reported that of the twenty-one patients operated upon for duodenal ulcers by the Billroth II type of operation, eight were symptomless from one to ten years while thirteen had discomfort ranging from postprandial distention to vomiting and diarrhea, and in five of these, jejunitis or jejunal ulcer was suggested both clinically and by Roentgen examination. In none of these cases was free hydrochloric acid found after a test meal, but its absence without fluoroscopic control of the position of the tube in the resected stomach is not absolute evidence of a lack of secretion.

A recent report of the Mayo Clinic on surgery of the stomach and duodenum shows that they are now doing the Billroth I type of operation whenever possible in preference to the Billroth II type for duodenal ulcers. In another report they noted a decline in the surgical treatment of duodenal ulcers admitted to the clinic. In 1931, 26% of the cases were treated surgically while in 1945 this dropped to 13%. Since the advent of vagotomy in 1945 and 1946 a higher percentage of these ulcers were submitted to surgical procedures.

Within the past several years, Dragstedt, Moore, and Grimson have individually done much work on gastric vagotomy. This is also called gastric neurectomy by some authors, but this latter term is misleading as no attempt is made to remove the sympathetic nerves of the stomach by this procedure. In the 1920's Harvey Cushing first noted the high incidence of peptic ulcers in patients operated upon for certain types of lesions of the mid brain and diencephalon. At that time he suggested a nervous origin or possible association of peptic ulcer with lesions in the para-sympathetic center in the hypothalmus.

In 1925 Walter Hughson also called attention to the influence of nervous impules through the vagus nerve on pyloric contractions and duodenal ulcers. Soon after this work of Hughson, J. Shelton Horsley began resecting the anterior vagus along with pyloroplasty and gastro-enterostomy in those cases of duodenal ulcer with high acid content in the gastric juices. It was noted at that time, particularly by the house staff, that individuals on whom this was done showed an increased emptying time of the stomach but a lowering of the total acid. We have continued resection of the anterior gastric vagus nerve with what we considered good results whenever ulcers of the duodenum were operated upon. The recent work on the vagus nerve goes much further and is more radical, and within the past few years we have done either a transthoracic or an abdominal vagotomy in certain selected cases.

Because of the satisfactory results obtained from gastric resection and the high incidence of carcinoma in gastric ulcers, I do not think vagotomy, either transthoracic or abdominal, is indicated in gastric ulcers, but it is suitable in certain selected cases of duodenal ulcers. In my opinion a young individual with a high acid and no obstruction but with intractable pain, a transthoracic vagotomy is the operation of choice. If these patients are selected carefully, I do not believe other procedures such as pyloroplasty or gastro-enterostomy will be necessary. However, if there is the slightest possibility of obstruction or if there have been any other complications, the transabdominal operation should be carried out, at which time the vagotomy can be done just under the diaphragm and the duodenal ulcer either resected by partial gastrectomy or left in place and pyloroplasty or posterior gastro-enterostomy performed. Approximately eighty to eighty-five per cent of these cases reported in literature in which this plan has been followed have received excellent results and only seven to eight per cent of the cases have been reported to be complete failures. These are much better results than had ever been obtained before radical vagotomy was carried out. It must be remembered that no matter what type of operative procedure has been done, the patient must be continued on medical treatment with a bland diet and adequate rest, for it has been shown both experimentally and clinically that even after the most radical surgery

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there is a tendency toward regeneration of the gastric fundic glands and reappearance of increased amounts of gastric secretion.

Several illustrated cases are reported below:

CASE NO. 2. Mr. C. H. L., age 39, complained of severe abdominal pain for several years. A year previous to admission he was x-rayed, and a penetrating type of peptic ulcer was noted which seemed to be on the gastric side of the pyloric sphincter. He was put on medical treatment but obtained only temporary relief. Immediately before operation, x-ray showed that the ulcer crater had enlarged. At operation a large penetrating type of ulcer was found in the pre-pyloric region, penetrating into the head of the pancreas. A partial gastrectomy, Billroth I, Horsley modification, was done and also cholecystectomy as the gallbladder was thickened and contained many adhesions. The patient made a very satisfactory convalescence and was discharged from the hospital nineteen days after operation. He reported his condition a year later, at which time he said he was symptom-free, had gained weight, and was able to hold his regular job without any difficulty. This case illustrates the point already mentioned; namely, that a penetrating ulcer of the pyloric sphincter is very seldom if ever relieved by medical treatment, and immediate relief and excellent results are obtained following adequate partial gastrectomy.

CASE NO. 3. Mr. O. L. S., age 64, complained of indigestion for twenty years. He was known to have a duodenal ulcer for much of this time. Recently, although he had continued on medical treatment, his symptoms had increased, and he had some nausea and vomiting. X-ray examination showed he had some gastric retention at the end of six hours. He was operated upon on February 26, 1946, at which time a large ulcer was found in the duodenum with cicatricial contractions of the duodenum. He had a partial gastrectomy, Billroth I, Horsley modification. The patient made a very satisfactory convalescence and was discharged from the hospital twenty-one days after operation. He returned to his occupation as a lawyer several weeks after operation and has continued his professional practice since that time. This case shows that a duodenal ulcer may be perfectly safely treated for many years medically; but if obstruction occurs, some type of operation is necessary. As his acid was quite high it was thought much better to do a partial gastrectomy rather than a gastro-enterostomy.

CASE NO. 4. Mr. L. C. H., age 33, complained of severe indigestion and abdominal pain which had been present for seventeen months. X-ray pictures showed he had an ulcer at that time, and he was put on a diet with immediate relief. However, this relief lasted for only a few weeks, the pain recurred, and a year before admission he had a rather severe gastric hemorrhage. Since then although following a strict diet, his pain had continued so severely that he was unable to do any type of work. X-ray examination showed a gross deformity with a large crater in the first portion of the duodenum. His pain was almost constant, and gastric analysis showed free acid of 72 degrees and a total of 80 degrees. As there was no evidence of duodenal obstruction, a transthoracic bilateral vagotomy was done on the eighth of November, 1946, and he was discharged from the hospital two weeks from the date of operation. Immediately after operation the patient experienced complete relief of pain and reported nine months after operation that he was in excellent condition. He had had no further indigestion but had continued on his diet. X-ray examination showed the ulcer to be completely healed, and there was no gastric retention. This case illustrates the only type of patient on which I think a transthoracic vagotomy should be done. He was a young man with high acid, and there was no evidence of any duodenal obstruction, and x-ray examination showed the ulcer was definitely in the duodenum.

CASE NO. 5. Mrs. F. B. M., a woman age 42, complained of abdominal pain, indigestion, lassitude, and lack of appetite. Several years previously she had been operated upon for cholelithiasis, and the gallbladder was removed. The patient had been on medical treatment without any relief of symptoms, and it was thought that many of her symptoms were neurogenic in origin. X-ray examination showed she had a duodenal ulcer with some duodenal obstruction and twenty-five per cent gastric retention at the end of twenty-four hours. Before operation her acid was from 19 to 54 degrees free and a total of 25 to 66 degrees. She was operated upon on the eleventh of August, 1947, at which time a transabdominal vagotomy was done along with posterior gastro-enterostomy. She made a satisfactory convalescence and was discharged

from the hospital twenty days after operation. The day before discharge the gastric analysis was repeated, and there was no free acid and the total was from 12 to 40 degrees. One month after operation she stated she felt better than she had for many years and she had gained sixteen pounds in weight. This case illustrates the value of transabdominal vagotomy. With the associated duodenal obstruction, I am quite sure the operation would have been a complete failure if the posterior gastroenterostomy had not been done.

In conclusion, peptic ulcers should receive adequate medical treatment after a definite diagnosis has been obtained by x-ray examinations. Before treatment is started, gastric analysis should be done to determine the amount of both free and total hydrochloric acid present. Medical treatment should not be continued more than six weeks on gastric ulcer cases unless by x-ray observation the crater is completely healed in this time, since from fifteen to twenty per cent of the cases reported by x-ray to be benign have been found at operation to be malignant. Surgical treatment of duodenal ulcers should be delayed until medical treatment has been given an extensive trial unless the pain is intractable or there is perforation, persistent bleeding, or duodenal obstruction. Vagotomy is of definite value in certain cases of peptic ulcers of the duodenum with high acid but should not be used alone unless there is no gastric retention or other evidence of pyloric or duodenal obstruction.

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ANOTHER FATALITY FOLLOWING THE USE OF TRIDIONE AND AN HYDANTOIN*

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Harrison *et al* in the *Journal of the American Medical Association* for September 7, 1946, reported one fatality due to aplastic anemia following the use of tridione and methylphenylethyl hydantoin, and in the same issue of this journal Mackay and Gottstein reported another fatality following the use of tridione. We are reporting still another fatality due to pancytopenia following the use of sodium diphenylene glycolyl urea which is closely related chemically to dilantin, and tridione.

REPORT OF CASE

J. T., white girl, age 11 years, was first seen by one[1] of us, July 11, 1945, at the age of 9½ years, because of momentary lapses of consciousness. The mother reported the first attack was in June, 1944, following a middle ear infection. In the beginning the attacks were infrequent but later became more frequent—as many as 28 a day. They were more frequent just before meal time, and often during the attacks she would rub her nose and pull her hair. She never fell, never had a convulsion, and there was no evidence of grand mal epilepsy. She had been given phenobarbital and later dilantin grains ½ t.i.d. without improvement. Momentary lapses of consciousness were observed during the first interview and examination of the patient, and they were definitely petit mal in type.

She was full term, normal delivery, breast fed, walked at 13 months, talked at 2 years, and the dentition was normal. Her past history revealed urethral stricture which was dilated at 10 months, rubeola, mumps, and varicella at 6 years, rubella at 9 years, tonsillectomy and adenoidectomy at 6 years.

Her habits were good except for some difficulty in going to sleep. Her physical and neurological examinations were entirely negative and there was no evidence of focal brain disease. Her weight was 75 pounds, blood pressure 88/60, pulse 96. The eyegrounds were negative. The basal metabolic rate was minus 19 per cent. The electroencephalogram report was as follows: 6 lead E.E.G. Monopolar Recording: 3-7/sec. activity, often of high voltage frequently interrupts more normal activity in all leads. Runs of very high voltage 3/sec. activity, with and without accompanying spikes, are recorded more frequently with hyperventilation. The longest of these runs is of 11 seconds duration. Between these bursts the activity is slow and disorganized. Impression: Petit mal.

She was given glutamic acid, eight tablets, ½ gm. each, three times a day, and phenobarbital, grains ½, at bedtime, and the dilantin discontinued. Thyroid, USP, grains ½, three times a day, was also prescribed.

She was seen at monthly intervals and showed some improvement. In September, 1945, she was given sodium diphenylene glycolyl urea (diphenylene), closely related to dilantin. In October because of lack of improvement the thyroid was discontinued. In January, 1946, marked improvement was reported, but by May the attacks again became more frequent.

On May 10th she was given tridione, 5 grs., four times daily. In June it was reported that she had suffered no attacks since May 10th. Diphenylene was continued as well as the tridione. In July she seemed pale and her laboratory examinations were as follows: Basal metabolism was minus 19 per cent. There were 4,500,000 red blood cells, hemoglobin 90%, 5,300 white blood cells with 34% polymorphonuclears, 62% small mononuclears, 2% large mononuclears and Turck's cells, and 2% eosinophils. Blood sedimentation rate was 6 mm. per hour. Urinalysis revealed color amber; sediment plus; reaction acid; specific gravity 1.020; albumen 0; sugar 0; epithelial cells few; pus cells, red blood cells, casts, mucus and crystals negative.

On August 28, 1946, the last visit prior to her admission to the hospital, she appeared well and her mother reported no further attacks.

*Read at the Staff Meeting of the McGuire Clinic, Richmond, February 3, 1948.

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Final Illness.—On September 27th patient had a slight head cold. On the 29th she awaked with a fever of 102 degrees, pain in the right shoulder blade, and a slight cough which was not productive of blood. The next day she felt chilly and was drowsy, and at noon her temperature was 103.8 degrees. Penicillin tablets, 50 thousand units every two hours, were given for twenty-four hours. The next day her temperature was normal. However, it was noticed that she was quite anemic (hemoglobin 42%). For the past one or two months her mother had noted bruises on the legs and more recently on her back and arms. October 2nd, she was admitted to St. Luke's Hospital.

Physical examination on admission revealed a well developed, poorly nourished, pale, little girl who seemed above the average in intelligence. Her temperature was 98.2, pulse 90, and respiration 18. The sinuses transilluminated well and were not tender. Eyes reacted normally to light; extraocular movements and fundi were normal. Ear drums were normal, hearing good. There was no obstruction or discharge from the nose. The teeth were in good condition; tongue and throat normal. The cervical glands were slightly enlarged; no neck stiffness; no thyroid gland enlargement. The lungs were clear throughout. Examination of the heart revealed no enlargement, murmurs or arrhythmia. The blood pressure was 100/55. The liver and spleen were not palpable; there was no costovertebral angle tenderness. Extremities and reflexes were normal. Several pale bluish areas, varying in size from a dime to a quarter, were noticed on the left shoulder, right arm and left leg. These areas were scarcely discernible, but according to the mother had been more prominent.

The x-ray report of the chest was as follows: There is a small faint shadow behind the right first interspace, the nature of which is not clear at the present time.

Urinalysis revealed: Color amber, slightly cloudy, specific gravity 1.021, reaction acid, faint trace of albumen, sugar negative, acetone negative. Microscopic examination showed rare red blood cells, many epithelia, few bacteria.

The peripheral blood smear made October 5th was normocytic and normochromic with occasional polymorphonuclear cells, few platelets, and most of the cells lymphocytes with occasional monocytes. There was little or no regeneration.

Sternal biopsy October 5th was reported by Dr. Scherer as follows: Sternal puncture shows a con-

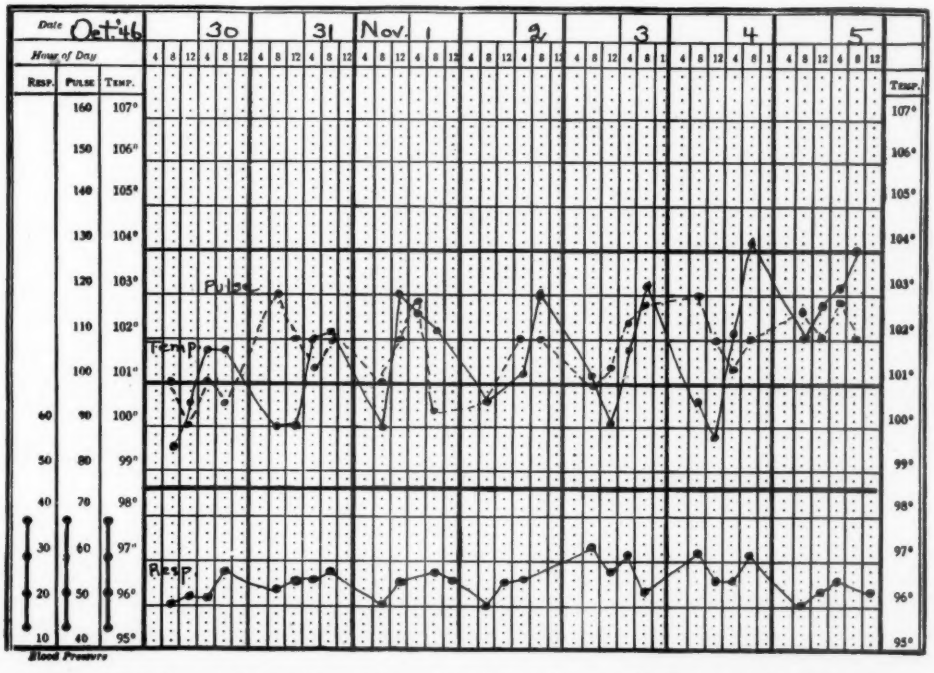

Fig. 1.—Clinical record of temperature, pulse, and respiration, shown graphically for a typical week.

siderably hypoplastic bone marrow with, however, more cells than we have been accustomed to seeing in other aplastic anemias such as those from the sulfa drugs or arsphenamine. There are a number of scattered normoblasts with very few younger cells while polys are scattered in the smear with very rarely a young cell of the blast type. No megakarocytes are seen although several of the blast cells have the appearance of megakaroblasts. Reticulum cells are frequently encountered and there are a number of scattered lymphocytes. A differential count gives this approximate result: Reticulum cells 7%, erythroblasts 1%, normoblasts 8%, myeloblasts 2%, myelocytes 2%, polymorphonuclears 8%, monocytes 2%, plasma cells 1%, and lymphocytes 69%.

The temperature, pulse and respiration for a single week are shown graphically (Fig. 1).

For the sake of clarity the following table serves as an outline of the blood picture and hospital course (Table 1).

During her hospitalization she was given phenobarbital, grs. ½, three times a day, and no seizures occurred. In spite of seven transfusions and other supportive measures the patient's general course was one of gradual deterioration and she died quietly November 23rd, 1946.

Postmortem Findings (Dr. Scherer).—The body

Date 1946	Hemoglobin Sahli	Erythocytes Millions	Leucocytes	Polymorphonuclears Per Cent	Transfusions Citrated Blood	Penicillin in 1000 Units Daily	Crude Liver Units	Pyridoxine Hydrochloride Mg. Daily	Remarks
Oct. 2	48	2.3	2500	6	---	160	2	100	Chest x-ray: Faint shadow behind 1st right interspace.
3	47	2.7	2340	4	---	160	4	100	Sedimentation rate 35 mm. in hour.
5	38	2.0	2260	0	500 cc.	160	8	100	Note petechiae on buccal mucosa.
6	56	--	2300	9	---	160	8	100	Platelets 40,000.
7	52	--	2140	8	---	160	8	100	Platelets 30,000.
8	52	--	1350	6	---	160	8	100	
9	50	2.7	2310	10	---	160	8	100	
10	40	--	2080	2	500 cc.	160	8	100	Stool negative for blood.
12	64	--	2100	4	---	---	8	100	
14	48	2.9	2200	4	500 cc.	--- oral	8	100	
16	65	4.0	2280	5	---	150	8	100	Note rectal ulcer and lip ulcer.
18	74	3.7	2180	5	---	400	8	100	Rh positive.
21	52	2.8	2060	2	500 cc.	400	8	100	
23	60	3.0	2520	1	---	---	8	100	
25	58	3.0	2400	6	---	---	8	100	
28	50	2.4	1960	2	500 cc.	---	15	100	
30	65	3.6	1420	5	---	---	30	100	
Nov. 1	64	3.2	2560	12	---	---	30	100	
4	58	2.9	1820	5	---	---	30	100	
6	50	2.6	2560	3	500 cc.	---	30 oral	100	Pain in abdomen.
9	50	3.8	1510	4	---	---	1 oz.	100	
12	60	3.2	1940	8	---	---	1 oz.	100	Urine bloody.
14	60	3.2	2740	11	---	---	1 oz.	100	
16	48	2.5	1400	17	---	---	1 oz.	100	
18	48	2.5	2340	9	500 cc.	---	.5 oz.	100	
20	58	2.9	2600	7	---	---	.5 oz.	100	Bleeding from nose and mouth.
21	28	--	----	-	---	---	---	---	Vomited large amount of blood.
23	Patient died quietly 5:35 A. M.								

Table 1.—Summary of important factors in clinical course.

was that of a somewhat emaciated, extremely pale, young female. About the buttocks there were irregular, brownish, pigmented areas resulting from old hemorrhage or injections. Otherwise, there were no external markings of significance.

Thorax: Both lungs were free in the pleural cavities which contained no fluid. On section these showed scattered hemorrhagic areas in the bases. Both lungs were air containing and contained no areas of consolidation.

Heart: The pericardium contained a small amount of straw colored fluid. On the anterior surface of the left ventricle there were numerous confluent petechial areas of hemorrhage in the epicardium and one larger area near the base of the heart about 1½ cms. in diameter. The hemorrhage was confined to the epicardium. The heart was moderately dilated and very pale, soft, and flabby. On section all of the valves were quite normal, thin, and delicate. The aorta was normal.

Gastrointestinal Tract: The lower portion of the gastrointestinal tract from the cecum down had a purplish color and on opening the colon, there was found to be a bloody feces throughout the colon. The upper gastrointestinal tract was essentially normal.

Liver: The liver was normal in size and of a pale, brownish color. The lobules were somewhat indistinct. The gallbladder was normal.

Spleen: The spleen was moderately enlarged to approximately 200 grams and on section was somewhat pale. The consistency was relatively firm. Malpighian bodies were not especially prominent.

Kidneys: Both kidneys were removed and noted to be extremely pale. The right kidney showed hemorrhage and blood clot in the pelvis. The cortices were normal, and other than showing marked anemia, there were no further gross findings in the kidneys.

Pancreas: The pancreas was a light yellow color and normal in appearance and consistency.

Adrenals: Both adrenal glands were removed and noted to be normal, showing no evidence of hemorrhage.

Urinary bladder: The urinary bladder was normal and distended with urine.

Uterus: The uterus was infantile and there was no abnormality of the tubes or ovaries.

Bone marrow: Bone marrow was taken from the sternum and the vertebral column. The bone marrow had a pinkish red appearance and was somewhat firm in consistency. This applied both to the marrow from the sternum and from the vertebra.

Microscopical Examination:

Spleen: The spleen showed prominence of the lining cells of the sinuses which were dilated or appeared so because of the small amount of blood present in the organ.

Lung: One section from the lung showed considerable hemorrhage into the alveoli in scattered areas. Another section showed marked areas of hemorrhage along with some pulmonary edema. There were scattered heart failure cells.

Pancreas: The pancreas was essentially normal.

Kidney: One kidney showed an organizing blood clot in the pelvis underneath the transitional epithelium lining the pelvis. There were also cells containing blood pigment in the perirenal fat about the pelvis. The kidney itself was essentially normal except for albumincus material in the tubules. The other kidney showed no hemorrhage and was pale, with albuminous material in some tubules.

Heart: There were areas of hemorrhage in the epicardium as well as scattered foci of hemorrhage within the muscle of the heart.

Bone marrow from the sternum and the vertebral column: Both marrows were essentially similar showing a marked fatty change for an individual of this age along with a considerable number of normoblasts, and a few areas of myeloid tissue. These, however, were very sparse. There were no megakarocytes to be seen. Scattered reticulum cells contained blood pigment. There was a marked hypoplasia of the marrow.

Colon: Section of the colon was not remarkable.

SUMMARY

A girl, aged 10 years, died from pancytopenia after having taken tridione and diphenylene concurrently for a period of five and one-half months. All supportive measures for stimulating hematopoiesis proved valueless.

CONCLUSION

Tridione and diphenylene, although not proven as the cause of pancytopenia, were thought to be the etiologic agents in its production. We feel prompted to add this report as an additional warning to those who use these drugs in the treatment of petit mal epilepsy.

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SEROLOGIC TESTS FOR SYPHILIS AND THEIR CLINICAL APPLICATION*

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Serologic tests for syphilis are based on the presence in the blood of a nonspecific substance called reagin. Reagin is present in the blood of some normal individuals, usually in such small quantities as to be undetectable by ordinary methods. The accepted blood tests for syphilis are so designed as to recognize only that level of reagin that is found in syphilitic infection. However, other diseases and disorders may produce a bodily reaction causing a rise in blood reagin. This is the so-called biological false positive. Among the chief causes of such reactions are: infectious mononucleosis, malaria, yaws, pinta, kala-azar, leprosy, tuberculosis, relapsing fever, the common contagious diseases, i.e., measles and mumps, smallpox and other vaccinia, acute febrile episodes, and some forms of malignancy.

Serologic tests for syphilis are performed on a qualitative and quantitative basis. The qualitative test indicates a blood reagin level compatible with syphilitic infection, while the quantitative test indicates the amount of reagin present in the blood. The latter is expressed in dilution value or units.

Since the description of the first serologic test for syphilis in 1906, various men have devised newer and more sensitive methods of detecting reagin in the blood. With an increase in sensitivity of these procedures, there has been an increased incidence of false positive reactions reported. Today, it is essential that serologic studies be performed in approved laboratories, staffed with competent personnel, capable of carrying out reproducible tests, using standardized equipment and procedure.

To comprehend serologic results, one must have an understanding of the laboratory procedure. An initial test is run on an undiluted specimen using an arbitrary amount of serum. This is the qualitative serologic test and it is reported as follows:

Negative—if no reaction is noted.

Doubtful—if a reaction is noted, but is of insufficient intensity to be reported as a definite positive.

Positive—if a definite reaction is noted.

This qualitative test constitutes the first step in a quantitative study. If the qualitative test is positive, the serum is diluted with an equivalent amount of saline producing a dilution of 1:2. If the test is positive in this tube, the serum is again diluted with an equivalent quantity of diluent, thus yielding a dilution of 1:4. This dilution process is continued until the tested portion gives a negative result. The last positive dilution is recorded and the blood test reported as positive in that particular dilution. In some areas the results are reported in Kahn units. This unit value is obtained by multiplying the highest dilution value by four. Following is a graphic illustration of serologic reaction:

Quantitative Test	Dilution 1:32	128 Kahn units
	" 1:16	64 " "
	" 1:8	32 " "
	" 1:4	16 " "
	" 1:2	8 " "
(Undiluted Serum)	1:1	4 " "
Quantitative Test	Positive (4+)	
	Doubtful (2+)	(Quantitative test
	Negative (0)	cannot be done)

Using an arbitrary amount of serum
¼ - ½ cc.

(Above chart—courtesy of Dr. Kimbrough)

Any statement regarding the clinical application of serologic results must be prefaced with the remark that serologic tests are only an aid in the diagnosis and follow-up of syphilis. The qualitative test is of greatest value when integrated with a complete history and physical examination. To condemn an individual to antisyphilitic therapy, solely on the basis of one or two positive blood tests, is a grave error in medical judgment. Any patient whose only positive findings are 1 or 2 blood tests and whose history and physical examination are negative, is entitled to a searching, prolonged study before being diagnosed as a syphilitic. Such observation should include repeated serologic blood tests and clinical inspections, as well as a thorough

*Read before the Rockingham County Medical Society, July 24, 1947.

search for the possible causes of false positive reactions.

The quantitative test is of greatest value in:

1. The follow-up of treated cases of syphilis
2. The detection of approaching clinical relapse
3. The evaluation of the status of infants born of treated syphilitic mothers
4. The study of the blood of suspected false positive reactors.

It has been conclusively shown that the level of reagin in the blood of a syphilitic prior to treatment has little or no relation to the severity or prognosis of his disease. For this reason, the quantitative serologic test has no place in the diagnosis of syphilis, except in the specific cases previously mentioned.

When a diagnosis of syphilis has been made and the patient treated for his disease, adequate post-treatment follow-up demands quantitative serologic tests at regular intervals. A suggested schedule would include tests each month for the first six months, then every three months for the 9th, 12th, and 15th months and yearly thereafter to a total of five years. A spinal fluid examination should be made during the first year after treatment, preferably within the 6th to 12th month.

Following treatment of syphilis, there are certain definite serologic patterns that appear. While Moore states "Initial serologic response during the first few months of treatment is not a guide to the probability of cure," it is nevertheless true that serologic observation on a quantitative basis gives us a most excellent index of progress in treated cases of syphilis.

The average time of reversal of serology in treated syphilis is variously reported. It is apparently governed to a considerable extent by the duration of infection prior to treatment. For example, syphilitics if treated in the primary stage or shortly after seropositivity is attained, show a rapid reversal of reaction, becoming negative in a few months after treatment. On the other hand, secondary syphilis and late syphilis show a much slower reversal rate. For secondary syphilis, the average time of reversal is 6 to 9 months after treatment—in some cases, being prolonged to 12 to 24 months.

In the follow-up of treated patients on a serologic basis, certain generalizations may be made:

1. If the quantitative serologic tests show a steady decline towards negativity, the spinal fluid is normal, and the patient remains clinically negative, progress is considered satisfactory and further treatment probably unnecessary.

2. If the patient demonstrates a gradual decline toward negativity and then shows a sharp rise in titer substantiated by one or two confirmatory tests, the individual is relapsing and should be retreated. This constitutes the so-called serological relapse and usually occurs within 6 to 9 months after completion of treatment.

3. If the patient's blood shows a persistently high titer level for the first six months after treatment, relapse is fairly certain to occur and retreatment is indicated.

A source of no little confusion in serologic evaluation of treated cases of syphilis are the so-called sero-resistant cases. By sero-resistant are meant those cases in which the positive test for syphilis persists twelve months after completion of treatment. There are two types of sero-resistance reported:

1. That in which penicillin exerts little or no effect on serologic titer. As Thomas puts its, "A persistently high serologic titer over a period of six months with no trend toward reversal portends relapse and demands retreatment."

2. That in which the titer level declines after treatment, but never quite reaches complete negativity. The blood remains positive, but stable and at a rather low level; i.e., a dilution of 1:1 or 4 Kahn units.

The latter type is not associated with a high incidence of relapse and opinion is at variance as to the best disposition in this group. Some authorities feel that the safest procedure is to retreat these patients after twelve months observation, while others feel that treatment may be withheld and the patient observed over a prolonged period, 24 to 36 months, providing the spinal fluid study is negative, and the serologic titer remains at or below 4 Kahn units.

In no case is the quantitative serologic test a substitute for careful and accurate clinical observation. While it is true that a rise in titer usually precedes clinical relapse, it is none the less imperative that thorough clinical study be given all follow up cases. Such study should include a muco-cutaneous and genitalia inspection at the time of each blood test.

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Today, facilities for quantitative studies are limited. The State laboratory will perform such tests only upon specific request. The rapid treatment center at Norfolk does the quantitative tests on their post-treatment patients. Until such a time as additional trained personnel and equipment become available, it is hoped that the requests for quantitative serology will be held to the necessary minimum.

Acknowledgment is made to Drs. R. Kimbrough and E. M. Holmes, Jr., of Richmond, and Dr. D. C. Smith of Charlottesville, for their contributions and criticism.

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Medical Mission Reports on Conditions in Puerto Rico.

The greatest single factor in the health of the people of Puerto Rico is nutrition, according to Dr. Ernest E. Irons, Chicago, who served as chairman of a nine-member commission appointed by the American Medical Association and Secretary of the Interior Julius A. Krug, of Washington.

The commission recently returned from Puerto Rico and the Virgin Islands, where it studied medical conditions at the invitation of the U. S. Department of Interior.

In the report, the commission stated that the entire population of Puerto Rico's lower income groups is under-nourished and that the food supply is becoming more inadequate.

One factor undermining the food supply, according to the report, is Puerto Rico's rapidly growing population—increasing at the rate of 65,000 every year.

As to medical service on the island, the report states that there are 800 doctors in the entire area, serving a population of over 2,000,000. Some of these physicians are inadequately trained and many rural areas have no doctors to serve them.

Since Puerto Rico boasts no medical school, the commission suggests that training of physicians take place in the United States. The Puerto Rican legislature has provided scholarships for such training. It is estimated in the report that if only 50 Puerto Rican students per each class of a four-year course came to the continental United States to study medicine, the island's physician needs would ultimately be fulfilled.

On the positive side of Puerto Rican medicine, Dr. Irons points to the School of Tropical Medicine, which he calls the "greatest single factor in improving educational standards in medicine in Puerto Rico."

The School of Tropical Medicine, a graduate school for advanced study, was organized under an enabling act in 1928. According to the report, the work now carried on there in tropical disease research and the testing of new drugs is of outstanding importance to medical science.

Despite the large nutritional and economic problems besetting Puerto Rico, the commission states that the quality of medical care has markedly improved during the last 10 years. Sanitation advances and improvement in some district and municipal hospitals are given credit for this new progress.

DIGITALIS IN ACUTE GLOMERULONEPHRITIS

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For many years the edema of acute nephritis was thought to be due to an increase in capillary permeability which allowed fluid and protein to escape through the capillary walls into the extracellular spaces. The edema fluid was found to be higher in protein content than that which was found in heart failure and nephrosis[1]. More recent work indicates, however, that the protein content of the edema fluid in acute nephritis is of the same order as that in these other conditions[2] which would suggest that the edema is due to the decrease in osmotic pressure, increase in capillary venous pressure, to salt and water retention, or to a combination of these factors. It is well known that the protein content of the serum in acute nephritis is usually normal[1,2], leaving the other two factors as probably causes of the edema in this disease.

The occurrence of the congestive failure in acute nephritis has been well reviewed by LaDue[2] and emphasis placed on the association of the edema with congestive failure and its dramatic response to digitalis. Warren and Stead[3,4] have suggested that the primary factor in the production of congestive failure is sodium and water retention with resulting hypervolemia, increase in venous pressure, and cardiac dilatation rather than primary left ventricular weakness and dilatation, pooling of blood in the large veins and increased venous pressure. It appears that in acute nephritis both of these factors could exist since there is impairment of renal function and also evidence of myocardial damage[5].

In six cases of acute glomerulonephritis recently treated in this hospital, immediate digitalization has resulted in a more dramatic improvement than would ordinarily be expected. In each case certain observations were made to establish that congestive failure existed and, following this, the patients were digitalized. It was felt that congestive failure was present in all the cases, as a result of the findings and their response to digitalis.

In evaluating the cases, a routine history was taken with emphasis on such symptoms as dyspnea, orthopnea, edema, increase in weight, and headaches. Enlargement of the heart, pulmonary rales, chest fluid, enlarged liver, rapid pulse, hypertension, pallor, and signs of anemia were particularly looked for on physical examination. Routine blood counts, urinalysis, blood urea, and sedimentation rates were done. In some of the patients total proteins and A/G ratio determinations were done. Following this most of the cases had a vital capacity, venous pressure, and circulation time done. To see if there was any cardiac enlargement, an orthodiagram or six foot chest x-ray was made. Most of the patients were weighed daily. An attempt was made to measure the fluid intake and the urinary output but it was difficult to accomplish because of the employee shortage.

All the studies and observations seem to indicate that a state of congestive failure with cardiac enlargement existed. Recent work by John LaDue[3] has also indicated this. The observations of this small series of cases were as shown herewith in Chart of Cases. In every case there was generalized edema, with pitting dependent edema in two, and a history of hematuria. Five had frequency or oliguria and the same number complained of headaches. Definite dyspnea was noted in three and one was very orthopneic. Some had noticed rather sudden weight gain. Others had nausea and vomiting. Two had generalized convulsions. An elevated blood pressure and cardiac enlargement as shown by physical examination and fluoroscopy or chest x-ray were found in all the cases. Systolic murmurs were heard in three and in one an aortic diastolic murmur was heard for a brief time. The pulse was elevated in five and in four there was a pleural effusion. Four showed an enlarged liver. Electrocardiograms[5] done on two of the patients were within normal limits. Hematuria, cylinduria, and albuminuria were present in all the cases except one in which the laboratory failed to demonstrate red blood cells, in spite of a history indicating it. In two the blood urea was elevated. An anemia and elevated sedi-

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Name Age	Symptoms	Physical	Urine	Blood	Chemistry	EKG I.V.P.	V.C. V.P. C.T.	Heart Size	Weight	Treatment	Etc.
R.A. 12 On admission [I]	Recent U.R.I. Gen. swelling with puffy face Hematuria Severe headache Nausea and vomiting Convulsions Frequency	B.P. 150/110 Periorbital and Gen. edema Pulmonary rales Cardiac enlargement Pulse rapid Fluid in rt. base Red throat Liver enlarged Edematous optic discs Temp. 100.0	Alb. 2 RBC 25-30 WBC 12-15 Casts 1-2	Hb. 68% RBC 3.3 Sed. Rate 11-16	Blood urea 10	N.D.	N.D.	Physical examination revealed heart definitely enlarged	N.D.	Salt poor diet $MgSO_4$ Digitoxin	
After digitalis	Symptoms cleared very rapidly	Diuresis 2nd and 3rd days B.P. fell to 116/60 on the 4th day No edema on 4th day	Alb. 0 WBC 1-2 RBC 0	Hb. 78% RBC 3.8 S.R. 8-17	Urea 11	N.D.	N.D.	Heart returned to normal size	N.D.		
C.V. 37 On admission [II]	Recent U.R.I. Gen. swelling one week Highly colored (dark) urine Headache Nocturia Dizziness Nausea and vomiting	B.P. 180/108 Puffy face Gen. edema and dependent pitting edema Liver palpable Pulse elevated Rt. pleural effusion Pulmonary rales in bases	Alb. 4 RBC ? WBC few Casts 1-2	Hb. 82% RBC 4.1 Sed. rate 12-20	Blood urea 15	Normal	V.P. 150 mm. H_2O C.T. 12 sec.	Orthodiagram showed definite enlargement Transverse diameter 13.3 cm.	147½ lbs.	Schemm diet Force fluids Digitoxin	
After digitalis	Symptoms cleared very rapidly	Diuresis in 36 hours B.P. started falling on 3rd day and was 150/80 on the 6th day	Alb. 0-2 RBC 0	Hb. 80% RBC 4.1 S.R. N.D.	N.D.	N.D.	N.D.	Decreased in size with transverse diameter of 12.2 cm.	Lost 7 lbs. in 2 days and 12 lbs. in 3 days		
P.N. 15 On admission [III]	Recent URI Puffy face and gen. swelling Hematuria Headache Sl. oliguria later nocturia Nausea Dyspnea Orthopnea Gen. convulsions	B.P. 144/90 Pallor of skin Gen. edema with slight pitting dependently Heart enlarged Mitral systolic murmur Pulse rapid Signs of pleural effusion	Alb. 4 RBC Many Casts Present	Hb. 72% RBC 3.6 Sed. Rate 23-28	Blood urea 13 Total proteins 4.1 (?)	Normal EKG	V.C. 49% V.P. 180 mm. H_2O C.T. 16 sec.	X-ray showed definite enlargement	100 lbs.	Schemm diet Force fluids $MgSO_4$ Digitoxin	Intake and output of no value

		Liver enlarged 2 f.b. below costal margin Sl. choked discs									
After digitalis	Symptoms cleared very rapidly	Diuresis on the 2nd and 3rd day B.P. started down on 5th day and was 110/60 on 10th day	Alb. 2 RBC 6-25 Wbc. several	Hb. 80% RBC 4.2 S.R. 18-24	Urea 14 Total proteins 7.1	N.D.	N.D.	Reduced to normal size by orthodiagram	93 lbs. on 3rd to 4th day 88 lbs. 6th to 7th day		
B.F. 17 On admission [IV]	Recent URI Gen. swelling, puffy face, etc. Dark urine Headache Recent weight gain Oliguria and dysuria Nose bleeds Dyspnea	B.P. 180/100 Pallor of skin Gen. edema Cardiac enlargement Pulse elevated Systolic murmur over precordium Temporary aortic diastolic murmur Edema eye lids	Alb. Sl. RBC 12-15 Casts Occ.	Hb. 52% RBC 3.4 S.R. 15-23	Urea 7.9 Total proteins 8.8	Normal EKG	V.C. 65% C.T. 18 secs. V.P. 250 mm. H_2O	Orthodiagram shows enlargement Transverse diameter 13.5 cm.	117½ lbs.	Schemm diet Force fluids $MgSO_4$ Digitoxin	Intake and output no value
After digitalis	Symptoms cleared very rapidly	Diuresis in 24 hours B.P. fell to 150/90 on the 5th day and was 140/80 on the 9th day	Alb. Sl. RBC 2-3	Hb. 66% RBC 3.9 S.R. 2-15	Urea N.D.	N.D.	V.C. 88% V.P. 95 mm. H_2O C.T. 12 sec.	Orthodiagram showed decrease in size Transverse diameter 10.1	Lost 4 lbs. in 1 day 8¼ lbs. by the 4th day		
T.N. 19 On admission before digitalis [V]	Recent URI Gen. swelling Hematuria Headache Nocturia Dyspnea Cough Abdominal	B.P. 190/104 Pallor of skin Gen. edema Dependent pitting edema Heart sl. enlarged Pulse normal Rales in lung bases Signs of effusion Liver enlarged 3 fingers below costal margin	Alb. 2 RBC 10-12 WBC 2-4 Occ. casts	Hb. 78% RBC 3.9 Sed. rate 11-18	Blood urea 25	Normal	V.C. 42% V.P. 185 mm. H_2O C.T. 15 sec.	Orthodiagram showed transverse diameter was 12.9 cm. and definitely enlarged	136 lbs.	Schemm diet Force fluids $MgSO_4$ Digitoxin	Intake and output of no value
After digitalis	Symptoms cleared rapidly	Diuresis within 36 hours B.P. 138/76 on 10th day. B.P. started down on 5th to 6th day	Alb. 1 RBC 0	Hb. 76% RBC 4.0 S.R. 6-11	Urea 10	N.D.	N.D.	Decreased to 11.6 cm.	Lost 5 lbs. in 1 day, 11 lbs. in 3 days, 20 lbs. in 5 days		

Name Age	Symptoms	Physical	Urine	Blood	Chemistry	EKG I.V.P.	V.C. V.P. C.T.	Heart Size	Weight	Treatment	Etc.
B.M. 10 On admission [VI]	Recent URI Gen. swelling Hematuria Headache Sl. oliguria	B.P. 154/98 Pallor of skin Gen. edema Heart enlarged Systolic murmur at apex Pulse rapid Sm. amt. fluid at left base Slightly tender over kidneys	Alb. 4 RBC Many Casts 3-4	Hb. 74% RBC 3.8 Sed. rate 19-26	Blood urea 40	N.D.	N.D.	Enlarged on X-ray	74 lbs.	Schemm diet Force fluids $MgSO_4$ Mild sedation Digitoxin	
After digitalis	Symptoms cleared rapidly	Diuresis on 2nd day (3rd hosp. day) B.P. started down on 5th day and was 110/70 on the 6th day	Alb. 4 on the 6th day RBC 16-18	Hb. 74% RBC 3.7	Urea 13	N.D.	N.D.	Decreased on physical examination	Lost 4 lbs. by the 3rd day		Discharged 6th day Urine since cleared

mentation rate were found in all the cases. The venous pressure was found to be elevated in all the four cases in which it was done. Similarly, vital capacities were done on three cases and in each one it was diminished. Circulation times were within normal limits in the three cases in which it was done.

With the assumption that congestive failure existed, the patients were rapidly digitalized with digitoxin and put on a maintenance dose. The following changes were noted. All the patients had a rather dramatic subjective improvement in 24 to 48 hours after digitalization. In this same period they all experienced a diuresis. Along with this diuresis, a pronounced drop in weight occurred as well as a marked subsidence of the edema. In the four cases in which orthodiagrams or six foot x-rays were done following the digitalization, all showed a decrease in size. In one case the vital capacity, venous pressure and circulation time were repeated, and the vital capacity increased, venous pressure fell, and the circulation time decreased slightly. In one-half the cases the red blood cell and hemoglobin increased, suggesting that a hypervolemia had existed before. In the few cases that had an azotemia the blood urea fell to normal. The sedimentation rates began to fall in a few days and the urines to clear. The blood pressures began returning to normal from the fourth to the seventh day. All these changes gave the clinical impression that digitalization caused a compensation of the congestive failure that resulted in a more dramatic improvement than would otherwise be expected. Therefore, it is felt that digitalis is of considerable value in the treatment of acute nephritis.

All the patients were treated in the usual manner of forcing fluids orally, salt free diet[6,7], adequate proteins, bed rest, mild sedation, and magnesium sulfate when indicated in addition to digitalis.

Summary of the cases is found in the following chart.

Interpretation of Symbols:

V.C.—Vital Capacity
V.P.—Venous Pressure
C.T.—Circulation Time (arm to tongue)
Hb.—Hemoglobin
Alb.—Albuminuria
U.R.I.—Upper Resp. Infection
MgS04—Magnesium Sulfate
S.R.—Sedimentation Rate (½ hr. and 1 hr.—Wintrob)
B.P.—Blood Pressure
N.D.—Not Done
I.V.P.—Intravenous Pyelograms

DISCUSSION

From the observations made on these patients certain inferences have been drawn. Congestive failure of some degree is usually present in acute nephritis. Probably the hypertension is a large factor in producing this[3]. Also, the diseased kidney is unable to excrete sodium chloride as the normal kidney would, resulting in salt retention. This causes an absorption of more water into the extracellular spaces[6,7] with resulting edema and possibly a secondary hypervolemia. This adds an additional load on the heart, already somewhat embarrassed by the edema and the disease process. A generalized vasoconstriction exists and this also possibly involves the coronary arteries, for LaDue has reported electrocardiographic changes representing myocardial ischemia[5]. The striking observation that the circulation time is not prolonged suggests that the heart failure is similar to that found in beriberi heart disease.

In adding digitalis to the therapeutic regime of acute nephritis it is felt that compensation occurs, since all the patients responded rather dramatically with decrease in symptoms, diuresis, and loss of weight and edema. The studies of the heart size and shrinkage after digitalis as well as the circulation studies also seem to indicate this. Of course, the limitation of salt, forcing of fluids[6,7], and rest are of considerable aid to the state of compensation.

Although the mercurial diuretics have never been tried here, speculation as to their value can be made. They allegedly have their effect by giving off a few mercuric ions to depress the reabsorption functions of the tubules[9], thus causing a diuresis. Many people have been given frequent doses of mercupurin over a long period of time with no untoward effects. Autopsies done on such people have showed no signs of tubular or kidney damage. The reports of fatal mercurial poisoning[10] following the use of mercurial diuretics have been extremely rare[11,12,13]. In fact, the mercurial diuretics have been used with benefit on the edema of the nephrotic stage[8] of chronic glomerulonephritis without any known effects. In acute nephritis the extent of tubular involvement is not known, but relatively few changes are seen microscopically[1]. No one has ever definitely shown that they will be further damaged by the mercurial diuretics. Now, if the kidneys will not be further damaged, why shouldn't the mercurial diuretics be of great value in promoting a diuresis with resulting loss of edema fluid as they are in ordinary congestive heart failure? Of course, massive doses might conceivably be harmful and in the presence of severe oliguria or anuria the drug would be contraindicated, as it would not be excreted.

This is not meant to be a thorough study on this disease and the effects of digitalis in it because of the lack of facilities, nor is it a large enough series to be significant. However, the results seem to indicate that congestive failure does exist in most cases of acute glomerulonephritis and should be treated with all the weapons available.

SUMMARY

It is suggested that a major cause of edema in acute nephritis is congestive failure and that the edema often clears up dramatically following digitalization. The mechanism of failure in this condition is discussed.

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Skin Eruptions Often Develop From Drug Applications.

Skin eruptions are often caused by drugs used to correct an existing disorder, according to an article by Lester Hollander, M.D., Pittsburgh, in the current issue of *Hygeia*.

"It is common knowledge among skin specialists," Dr. Hollander asserts, "that both externally applied and internally administered drugs can cause a great variety of skin eruptions.

"Since the actual cause of an eruption is increasingly more difficult to identify as its duration lengthens, and since certain eruptions may precipitate chronic organic damage, physicians have to be on the alert for them. The source of a blistery eruption of the hands and feet or a diabolic nocturnal itch is more often found in the consumption of proprietary [patent] medicines." Cold remedies, headache cure-alls and cathartics are among the most common remedies causing skin disorders, the doctor states.

"The kingpin among the many-purposed vitamin B complex groups, thiamine chloride or B_1, not infrequently causes a skin eruption. At times the benefits of vitamin B are nullified by the inconvenience, insomnia and nervousness caused by the vitamin itch.

"You can accept it as axiomatic," the article continues, "that any skin disease or eruption which becomes increasingly annoying after the use of a local application is being irritated and not helped by it—even if its 'purity' and 'non-irritating' qualities are certified by movie stars, golf professionals or any such disinterested, self-sacrificing people. Of all these nostrums the so-called athlete's foot remedies are the most noxious."

Penicillin Lozenges May Be Cure For Diphtheria Carriers.

Encouraging results from penicillin administered locally in the treatment of carriers of virulent diphtheria are reported in the March 27 issue of *The J. A. M. A.*

A carrier is a person with no visible sign of the disease but who has the diphtheria bacilli in his throat and transmits them to others.

Administration of penicillin intravenously is of little value, but when it is administered either as a lozenge under the tongue or as a spray it has shown good results, the article states.

The author, Dr. A. J. Levy, Dixon, Ill., points out that while this form of penicillin administration for diphtheria carriers is still in the experimental stage, the results of the four cases reported may serve "to further the study of the effect of penicillin administered locally in the treatment of diphtheria carriers.

"This was found to be more effective because it seems the lines of attack were directed to the affected areas," the doctor writes.

"It is believed that for acute cases as well as for the carrier state the parenteral [intravenous or intramuscular] method of penicillin administration was of little value.

"When penicillin was used locally in the form of lozenges and spray, it was found in this limited study to be successful in the treatment of carriers of virulent diphtheria within one week, and the patients remained free from diphtheria even a year after the study was made."

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SINUSITIS*

F. V. GAMMAGE, M. D., F. I. C. S.
Grundy, Virginia.

Sinusitis, or sinuitis, as the late Dr. Joe Beck would insist, is a concept practically unknown a generation ago. However, today the average patient is, to say the least of it, sinus conscious. Indeed, it is a most unusual day when several patients do not present themselves at the office with the ready made diagnosis of "sinus". This usually turns out to be the "postnasal drip" which Proetz[1] calls "the current American nightmare". Our grandfathers called it "catarrh"; their grandfathers, "defluxation." Before, it was a "rheum." Because patients in all walks of life and levels of intelligence have lately elevated a disagreeable symptom to a serious affliction and come in numbers for relief, it seems well to consider the nature, causes and effects of these post-nasal discharges. Actually the only type of discharge capable of endangering health is one carrying virulent organisms; this is relatively uncommon.

Among etiological agents are central heating, tobacco smoking, alcohol, thermal changes, local mechanical abnormalities, non-malignant lesions, dusts, fumes, bacteria and viruses, fungi, allergens (inhaled or ingested), atrophy, foreign bodies, malignancies, metabolic upsets and disturbances of elimination, endocrine disturbances, emotional disturbances and excessive and prolonged medication. However, upon investigation we find anything from acute rhinitis to cancer of the larynx. Sinusitis *per se* remains a very difficult problem. In very fact, every case of the common cold is also a case of sinusitis, for the Schneiderian membrane is continuous with the sinus membranes through the ostia.

As we look into the nose of the ordinary cold, we see a red, turgescent membrane that occludes the nares. This same condition prevails in the sinuses to the point in many cases of obliterating the lumina completely. Fortunately, in many cases, with the so-called breaking of the cold, not only the membrane within the nose proper resolves itself but that within the sinuses also resolves itself and the patient recovers.

ANATOMY

When one considers the anatomy of the sinuses there is small wonder that complications can and only too often do arise. There are the 2 frontal sinuses, one on either side of the mid-line, lying between the 2 plates of the frontal bone and emptying into the middle meatus. Next, come the anterior ethmoid cells, consisting of the agger nasi cells which lie just anterior to the anterior attachment of the middle turbinate. Posteriorly and laterally lie the infundibular cells, 1-4 in number. Mesially are the frontal recess cells, 2-3, opening into the frontal recess. Posteriorly the bulla or middle ethmoidal cells, 1-4, open into the bulla recess. The frontal and anterior ethmoidal cells all empty into the middle meatus, as does also the largest sinus of all, which may be double, lying in the body of the maxillary bone and called the antrum of Highmore.

Posteriorly are the posterior ethmoidal cells from 1-3 that open into the superior and supreme meati when the latter are present. These tend to ramify and may extend to the frontal, ethmoidal, antrum and sphenoidal regions.

Last, but not least, are the sphenoidal sinuses in the anterior half of the central portion of the sphenoid bone and opening into the sphenoethmoidal recess. Adding up, we find frontal 2, agger nasi 4, infundibular 8, frontal recesses 6, bullae 8, posterior ethmoid 6, antrum 2, sphenoid 2, a total of 38 cells[2]. These cells are all contained in hard bony walls that are non-yielding, allowing of no collapsing with a possibility of complete drainage. These are also built for four-footed animals. When we stand upright only one of the frontal sinuses has a dependent ostium, allowing for drainage by gravity. The rest all have their ostia above their floors, leaving a cul-de-sac for the collections of secretions.

The nasal passages and sinuses are all lined with ciliated epithelium, those of the sinuses beating toward the ostia through which the secretions are thrown into the nose, while those of the nose all beat posteriorly where the secretions are thrown into the nasopharynx and then into the pharynx where they may be expectorated or swallowed. Proetz, among others, has done much research work on the action of these cilia and has stressed the importance of preserving the physiological activity of these cilia.

*Read before the Buchanan-Dickenson County Medical Society, May 23, 1947.

It is upon the perfect functioning of these cilia that depend the removal of bacteria, pus, dirt, and all noxious material from the sinuses and nares. It has been found that most medicines that are in ordinary use in nasal drops and sprays are injurious to these cilia and prevent their action in removing infection. Notable exceptions to these are ordinary saline solutions and 1% ephedrine solutions or sprays.

ETIOLOGY

Much has been said of the common cold, which costs the country 53,376,000 man-days and $3,000,000,000 per year. The prompt treatment of the common cold will eliminate the majority of sinus affections. The best way to treat it is by treating it as a major disease, rather than as a minor infection as we are so prone to regard it. The proper place for the patient who has caught a fresh cold and is all stopped up, not being able to breathe through the nose, has a headache, no appetite, lacrimation, malaise, etc., is in bed. If this single precaution were observed, 90% of the battle for the cure of the cold would be won, for the medical treatment is, to say the least of it, chaotic. We all have our pet cold cures, putting our faith in drugs, sprays, vapors, hot or cold drinks—not to mention the good shot of whisky which, 9 times out of 10, makes an already bad matter worse by causing added congestion and irritation to an already super hyperemic and irritable nasal membrane.

The pH of the nasal medication is important. They must be isotonic, and of optimal pH 5.7. This aids and not hinders the action of the cilia which is the all important factor in the elimination of the noxae from the nasal mucosa.

Since the cause of the common cold is not a bacterium that we can see and isolate, but is an unknown virus, no specific is known for it. The U. of Oxford in England is carrying out extensive research in order to determine the exact cause of the common cold. The sulfonamides and penicillin have no effect upon it.

Repeated attacks of the common cold predispose to sinusitis. If a cold does not clear up, other bacteria enter upon the picture. These bacteria cause sinusitis. The virus may have started the sinusitis in the first place, but it is quickly replaced by the pus-forming organisms and these are the things that we demonstrate under the microscope from the washings of a sinus when it becomes necessary to operate. Although sinusitis may be primary as, for instance, from diphtheria, influenza, croupous pneumonia and erysipelas, nevertheless it is usually secondary to some intranasal infection, e.g., the common cold and such diseases as scarlet fever, measles, smallpox, tuberculosis, typhoid fever, and cerebrospinal fever[3], not forgetting dental infections.

ALLERGY

This is an ever-broadening field and no one knows the dividing line between infection and allergy, so much so that a bacterial allergy is now accepted. In actual practice infection and allergy overlap so that it is not always easy to tell whether we are dealing with an allergy of the nose or an infection. While the clinical tests for allergy are complicated, time-consuming and not altogether reliable, there is now the possibility of a simple blood test replacing the hundreds of scratch or intradermal tests necessary to try to determine the cause of the allergy. This makes of it a routine laboratory test and the resulting clinical procedure is based upon the similarity of the clinical signs of allergy with those of histamine[4]. Advanced allergic processes overlap infectious processes with the admixture of bacteria and pus and the formation of polyps. An outstanding piece of research work on the polyp has been done by Robison[5], who reasons that the polyp is a defensive organism and undertakes to insert an artificial polyp in the form of a dilatable rubber bag into the antrum with the object of pressing out the serum from the water-logged mucous membrane, thereby bringing it back to normal.

TREATMENT

The basic principles underlying the treatment of sinusitis are the establishment of proper aeration and drainage. Medically this is usually brought about by the intranasal use of astringents such as cocaine, adrenalin, ephedrine, etc. These are either applied directly to the nasal cavity by the physician or in the form of drops or sprays by the patient himself. Dehydrating agents such as glycerine, usually combined with antiseptic drugs such as argyrol, iodine, ichthyol, etc., are applied in the form of intranasal packs, combined with the use of the infrared lamp over the facial area. This causes the flow of a vast amount of serum from the nasal cavities, tends to deplete the engorged tissues and opens up the ostia of the sinuses thus permitting free drainage therefrom. The Proetz treatment of the head-

low position while patient rarifies the air in his nasal cavities permits of the introduction into the sinuses of medicinal agents, normal saline solution with ephedrine ½%, the sulfonamides, penicillin, etc. Aerosols[6] are the latest method introduced for the treatment of sinusitis. This consists of a fine spray forced under pressure, usually of an oxgyen tank, into the nasal passages. Various drugs are used, especially the sulfonamides and penicillin. Aerosols are useful in sinus, laryngeal, tracheal, bronchial and pulmonary conditions such as pneumonia and bronchiectasis.

Crowe[7], of Johns Hopkins, has used radium for irradiation of the nasopharynx for the past 20 years in the treatment of upper air passage infections, otitis media, sinusitis, bronchitis, etc. His object is to remove by radium the obstructing lymphatic tissue in the nasopharynx that is not amenable to surgery but harbors infection and obstructs the choanae and the eustachian tubes. This method is particularly useful in the prevention of aerotitis, deafness in children, besides eliminating a cause of sinusitis.

SURGERY

Surgery is like fashions. The pendulum swings back and forth according to the trends of the times. Twenty years ago if a patient went to the office of the rhinologist he was lucky if he got out without a submucous resection, removal of a turbinate or two, or at least a vigorous cauterization of the overlying mucosa. However, the results of ill-advised intranasal and sinus surgery have become so evident that the pendulum has swung to the conservative side. We are all familiar with the picture of the ragged interior of noses that have been subjected to one so-called sinus operation after another: the perforated septum, the saddle-back nose, the macerated turbinates, the gaping holes in the sinuses allowing the free entry of dust, dirt and infection, the heavy foul-smelling crusts and scabs that cling to the nasal mucosa to say nothing of terribly disfiguring scars over the brows as a result of the radical frontal sinus operation. The result is that today the role of major surgery in the treatment of infections of the paranasal sinuses has diminished to such an extent that one seldom sees the case that cannot be properly cared for by more conservative means[8].

Pursuant with our idea of establishing aeration and drainage in sinusitis, we try to remove all obstructions in the nasal cavities: septal obstructions, spurs, polyps, tumors, turbinal enlargements, never removing the inferior turbinates *in toto*. Sinuses are punctured and drained, windows are made under the inferior turbinates; in short, all minor surgical procedures are carried out first; then, and only then, is the last resort made to major surgery.

SUMMARY

Sinusitis is a comparatively modern conception but with almost universal dissemination. Its causes are legion and its aspects are protean. Among its causes are poor housing, improper heating, dusty and vitiated atmosphere, injudicious and inadequate diet, high pressure living, crowded conditions, etc. The common cold constitutes its most prevalent cause, with dental infections aiding. Treatment is based upon the primary principles of aeration and drainage of the respiratory passages. Overtreatment by the almost universal national habit of the use of nasal drops is to be deplored. Allergy plays a prominent role in its etiology, as does redundant lymphatic tissue in the nasopharynx which is best removed with radium. The aerosols constitute a new major addition to our therapeutic armamentarium. Conservative measures of intranasal shrinkage and medication and the removal of minor obstructions, such as septal deflections, enlarged turbinates, polyps, tumors, crusts, scabs, foreign bodies, etc., should be given a reasonable trial before resort should be had to major surgery.

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PUBLIC HEALTH

L. J. ROPER, M.D.
State Health Commissioner of Virginia

The report of the Bureau of Communicable Diseases of the State Department of Health for April 1948, as compared with the same month in 1947, and for the period of January through April 1948 compared with the same period in 1947, is as follows:

	April 1948	April 1947	Jan.-April 1948	Jan.-April 1947
Typhoid and Paratyphoid Fever	11	5	41	22
Diarrhea and Dysentery	271	349	1,189	1,363
Measles	656	1,404	2,714	4,780
Scarlet Fever	90	120	431	658
Diphtheria	12	18	83	108
Poliomyelitis	3	0	7	12
Meningitis	11	13	36	46
Undulant Fever	8	7	29	16
Rocky Mountain Spotted Fever	0	0	0	1
Tularemia	1	0	20	26

MALARIA IN VIRGINIA

Many Virginia physicians will recall previous years in which malaria was frequently encountered in their practice, but know now that the disease has declined to the point where it can be considered a comparative rarity. Morbidity reports for the five year period 1915-1919 show an average annual incidence of 8378 cases with an estimated attack rate of 373.1 per 100,000 population. In comparision an average of 114 cases and an attack rate of 4.3 are observed during 1938-1942 period. Unfortunately, increased prevalence developed during 1943-1947 in which average annual incidence amounted to 456 with a rate of 16.7. It is worthy of note that 1807 or 79.2% of cases reported during this period were males of military age and it is, therefore, assumed that the majority of these were infections acquired overseas. It must be remembered that each case represents a potential reservoir of infection and that spread may occur whether the source is local or elsewhere.

It has been shown that the mosquito—anopheles quadrimaculatus—is responsible as the insect vector of most malaria cases throughout the nation. Distribution of this mosquito in Virginia is widespread, being observed almost wherever impounded water is present. Concentration, however, is most marked in the triangular area between the counties of Pittsylvania, Arlington, and Princess Anne. During the past eight-year period cases have been reported from all of the larger cities and 93 of the 100 Virginia counties. This distribution normally would be expected since the majority of infections were of military origin. Concentration of cases is observed in those counties in which military hospitals are operated with report made from such institutions.

The state and local health departments are concerned with the increased prevalence of malaria in order that all practicable steps in control may be taken. It is, therefore, urged that all physicians report their cases providing the following information: Name of case; address; age, sex and color; military origin of infection; source of infection; type of malaria.

MEDICAL SOCIETY OF VIRGINIA
COUNCIL

Called Meeting
April 28, 1948

Upon request of some members, the Council and Legislative Committee held a joint meeting at the Society's office on April 28, 1948, at 4:00 P.M., with the President, Dr. Guy R. Fisher, presiding. Others present were: Drs. M. P. Rucker, W. L. Powell, F. A. Farmer, Guy W. Horsley, J. L. Hamner, W. A. Porter, W. R. Whitman, V. W. Archer, James P. King and L. J. Roper of the Council; Drs. W. C. Caudill, J. D. Hagood, D. B. Cole, Carrington Williams, J. R. Gorman and C. C. Smith of the Legislative Committee; Mr. R. C. Duval, attorney; Mr. Henry S. Johnson, director of Public Relations; Dr. W. B. Blanton and Dr. J. P. Williams.

Dr. Fisher explained that the meeting had been called as there was a desire on the part of some to have a discussion of medical matters which had come up during the last General Assembly, and asked Mr. Johnson to tell something of the work accomplished. Mr. Johnson said he felt the Council would like to know the opinions of the members of the Legislative Committee who were also in the Senate and had worked hard for the passage of bills to uphold educational requirements. Upon his suggestion, Dr. Fisher called upon Dr. Caudill, chairman of the Legislative Committee, who told of the united support given by doctors of the State and said he felt the members of the General Assembly now had a more kindly feeling toward the medical profession than ever before. Then followed a general discussion in executive session after which recess was taken for dinner.

Upon resuming business, Dr. Fisher said when he heard it had been recommended by the Committee on Reorganization of State Government to place the Medical Examiner System under control of the Police Department as an economic measure, he at once reactivated the Society's Committee on Medical Examiner System, Dr. Wyndham B. Blanton, chairman, and gave him authority to secure any help necessary to prevent this move, and asked Dr. Blanton to report on this. Dr. Blanton said it soon became apparent that the System would have to be placed under some State Department, and, with the help of the Legislative Committee and Mr. Duval, his committee had succeeded in having it placed under the State Health Department. He said Dr. Breyfogle, State Medical Examiner, is one of the best men in his line in the United States, and felt the Council should know he is well recognized and had been asked by the American Medical Association to report on the system in Virginia. Dr. Archer thought the profession would be interested in knowing more of Dr. Breyfogle's work and suggested that he be asked to write an occasional article on his work for the MONTHLY. Dr. Rucker suggested that this request be sent him from the Council, following which motion was made and carried that Dr. Breyfogle be requested to write some articles for the journal. Drs. Blanton and Roper were asked to suggest subjects for these articles.

The President then asked Dr. J. Powell Williams for a report on the recent conference sponsored by the A.M.A. in Chicago on National Emergency Medical Service, which he attended as representative from the Medical Society of Virginia. Dr. Williams gave a very full report (appended to these minutes), and stressed the need for preparedness as emphasized at the conference. The delegates were urged to see that the various states had civilian defense councils formed and they be instructed fully as to what would be expected of them. He learned that Virginia had not appointed such a Council and he was requested to see Governor Tuck and explain to him the urgency of appointing a council on civilian defense.

The secretary stated that since buying fifty copies each of Medicine in Virginia, 18th and 19th Century volumes (reported at the last Council meeting), Garrett and Massie had advised they wished to dispose of the remaining lot—approximately 470 each of Medicine in Virginia in the 18th and in the 19th Century, for which they had been offered a dollar each, but would sell to the Society at 90 cents a copy. They also had about 400 books (18th Century) in folded sheets at L. H. Jenkins for which they had been offered 25 cents a copy but would sell to the Society for 20 cents each. They advised further that L. H. Jenkins would store the lot for the Society at $2.00 a month. They would give the Society option on these until May 1st, after which they would dispose of them to a firm out of the State. It was moved and seconded that the Society buy all of these books and sell the bound copies at $1.50 each and the unbound copies at 50 cents each.

A button was shown which had been received from jewelers who make them for the Indiana State Medical Association to be given their members who have practiced for fifty years, to see if this Society would be interested in securing some. It was noted that a number of State Medical Associations are starting what is known as "Fifty Year Clubs" and it was felt this Society might also take some special recognition of these members by awarding them an appropriate certificate and Dr. Wyndham Blanton was asked to decide upon the wording on these certificates.

Dr. Fisher said he was recently advised that the Maternal Health Committee wished to make a special survey on maternal deaths and he had authorized the executive secretary to pay what is necessary for postage and forms for this work up to $75.00, in addition to the amount allotted this committee in the budget. He felt no action

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was necessary in regard to this but wished the Council to know it had been done.

He stated also that the secretary had advised him that no amount had been included in the budget to cover expenses for her and the assistant secretary to attend the A.M.A. meeting, the estimated cost for which would be $275.00 to $300.00 for the two. As other societies are sending several representatives, Dr. Fisher felt this Society should send them. Dr. Archer moved that a sum sufficient for their expenses in attending the meeting in June be appropriated. Seconded and carried.

The question being asked if doctors had been advised of the new law requiring their registration each year, effective July 1st, motion was offered and carried that Dr. K. D. Graves, secretary of the State Board of Medical Examiners, be requested to write a letter or article for the June MONTHLY, reminding doctors of this registration and giving something of the mechanics of the plan.

Dr. Archer said there had been criticism of the Society from some sources for not inviting colored physicians to their scientific sessions and exhibits. Dr. Horsley said several local societies invite colored physicians to their scientific sessions and he felt this was a question to be considered. The question being asked if the hotels would object, it was stated that both the John Marshall in Richmond and Hotel Roanoke objected to this. After discussion, it was decided this is a matter to be submitted to the House of Delegates and a motion to this effect was adopted. It was felt this could be brought up at the Sunday evening meeting of the House of Delegates in time to have action for the 1948 meeting.

A letter from the American Association of Blood Banks, asking for the endorsement of the Society and suggestions for cooperation and assistance, was ordered referred to the House of Delegates.

Dr. Hamner said the Virginia Section, American Academy of General Practice, would appreciate the Society's endorsement of that organization as they are working to improve the status of the general practice of medicine. No action was taken as discussion brought out the fact that a number of other special societies met at the same time as the State Society but it had not been felt necessary to endorse the work of any of them.

Dr. Fisher told of the Rehabilitation Center which had been established at the former Woodrow Wilson Hospital in Augusta County and said it offered wonderful possibilities for the physically handicapped. It is operated by the State Board of Education and the Society's Committee on Rehabilitation cooperates with it. In connection with this, there is a high school on the grounds with a vocational department. Through this institution, Virginia is doing a magnificent work and he asked the Councilors to visit the institution and to tell their people back home about this Center. In answer to a question, he said the patients have to be ambulant.

Dr. King said at a District Council meeting recently held in Marion two suggestions were made in regard to Public Relations work:

1. That a mimeographed page be sent monthly to all members in the State; and

2. That there be a more liberal use of the pages of the MONTHLY by the Public Relations Department.

Dr. Horsley said the State Board of Medical Examiners receives a large number of requests for doctors in rural sections, which is one of the reasons they had in asking for the registration of physicians. Many A-class schools have been stressing specialization among their students but they should encourage them to go into rural districts or there will be legislation to enforce this. Dr. Archer said that, starting in 1949, the University is putting on a two-year general practice rotating internship in small hospital of the State and the idea of specializing is now being discouraged at the University of Virginia. Dr. Rucker, recently returned from an Alabama meeting, says that State has already started the two-year rotating general practice internship in its smaller hospitals.

Adjournment followed.

AGNES V. EDWARDS,
Secretary.

Approved:
GUY R. FISHER,
President.

National Emergency Medical Service*

The Council on National Emergency Medical Service met in the American Medical Association Auditorium, Chicago, April 5, 1948, with Dr. James C. Sargent presiding. There were representatives from 41 states and from all the national organizations of specialties. Dr. Bortz, President of the A.M.A., was also present as a representative of the Board of Trustees.

The first part of the meeting was taken up with a history of the appointment and organization of the Council, and of designation of its consultants (Paullin, Morgan, Reese, Lyons).

Efforts to coordinate Council activities and planning with those of the Federal Government had been without results because Mr. Russel J. Hopley had just been appointed to head up Civilian Defense under the National Security Resources Board, and had not yet appointed his medical member who would probably be named by the A.M.A.

The work of General Hawley's committee in attempting to coordinate the medical services of the Armed Forces with consequent elimination of inefficiency, duplication, and waste in personnel and materials was discussed generally but no details were available. He had been offered all of the facilities and assistance of the A.M.A.

Prior to Mr. Hopley's appointment, Mr. Forrestal had set up within the defense framework a board under the chairmanship of Mr. Gray (Army) to collect data and keep him advised as to Civilian Defense needs. This board had directed an inquiry to the Council as to its

*Report referred to in Council Minutes.

policy for civilian components of National Defense. The reply was in effect:

1. Experience of the past war was of a complete lack of coordination of procurement among the various services which resulted in competition among themselves with consequent failure of full utilization of available professional man power and needless deprivation of the civilian front.

2. That before the inquiry could be intelligently answered, the basic policy of military planning must first be defined.

3. That the allotment of civilian medical resources in long range planning should be a joint project of both civilian and military authorities.

4. That the A.M.A. would cooperate fully both in the development and in the execution of such a plan.

Also prior to Mr. Hopley's appointment, a "Study of Civilian Defense" had been completed for the President by a board headed by General Bull and this is available for local guidance and planning at small cost from the Government Printing Office.

Dr. Meiling reported that he had sent out for the Council inquiries to the Governors of all States and Territories as to their local planning for Civilian Defense. Copies of these letters had also been sent to the Secretaries of State Societies. He had received replies from 41 States, only 7 of which had plans actually set up and ready to function. About 20 had plans on paper but no actual organization. The others had no plans. Virginia was one of the 11 States which had not replied at all. None of the Governors reporting plans included a representative of the medical profession. The Council advised that State Authorities be urged to include medical representation in their Civilian Defense Councils.

Dr. Diehl of the U.S.P.H.S. gave a detailed report of its facilities and functions in time of peace and war. (When the Coast Guard and U. S. Maritime Service join the Navy in war, their hospital system goes with them.) They have about 200 Sanitary Engineers, many of whom accompany the Army. He called attention to the fact that in World War II, the Armed Services had taken 40 per cent of medical man power to take care of 9 per cent of the population, leaving only 60 per cent for care of civilian population, thus increasing the patient load by 75 per cent.

In report of a recent survey, Dr. Parran, who has just retired, estimated that by 1960 there would be a shortage of 40,000 to 50,000 doctors in the United States. This estimate was arrived at by applying the ratio of doctors to population in the upper 25 per cent of the states to the lower 75 per cent. Both Dr. Diehl and the new Surgeon General felt that it was not fair to take the ratio of the upper 25 per cent as optimal since it was known that in these densely populated states the saturation point for doctors had been exceeded and many were having a hard time. He states that in Sweden, one of the most enlightened countries medically with statistics which equal or exceed ours, the ratio is 1:2090 and the goal which they have set for themselves is 1:1000. Our ratio at present is 1:742 since we have nearly 200,000 doctors. About 20 per cent of ours are not in active practice but the same holds true for the Swedes and their total figures are used in calculating their ratios.

A fairer assumption would be that if we had enough doctors during World War II, we have certainly gotten no worse off.

1. The speeded-up program gave us 7,000 more doctors during the war period than we normally would have had and losses were increased to a negligible extent.

2. In addition, the normal accretion of 2,000 annually proceeded.

3. A number of new schools have been started which will bear later fruit.

4. Many doctors separated from Armed Forces are still in Residency Training and are not yet available.

5. ASTP's and V 12's are still completing service requirements and will return in large numbers soon.

Any program which would at this time increase the number of doctors either by "speed-up" or by subsidized scholarships from the Armed Services would lower the per capita earning capacity of the profession.

Dr. Anderson, Secretary, Council on Medical Education and Hospitals, agreed with the above. He stated that his Council felt that such recruitment by the Armed Forces should be carried on *after graduation* by fellowships and other inducements for special training.

Dr. Stafford Leak Warren, Dean, School of Medicine, University of California, and in charge of Radiological Security for Bikini and Crossroads, showed movies of Hiroshima and Nagasaki, especially clinical cases and autopsy material. Most of what he said had been published previously and will not be repeated. He referred to his own article in "Air Affairs, March, 1947, page 347", as containing all information as yet released about medical aspects of atomic warfare. This will be mimeographed and sent us by the Council.

The only things which were new to me were:

1. We are *still* without any adequate defense.

2. Radioactive particles can be transported long distance in dust clouds (dust bowl). Dr. Warren flew through a dust cloud over Colorado recently for 500 miles.

3. This dust will settle to earth, contaminating soil and water with minimal amounts of radioactive material which because of dispersion, offers no direct threat to life or health (less than 1/10 R-unit daily).

4. We also know that plants growing in a soil of minimal contamination will concentrate radioactive elements, having long half-life (Strontium) 100,000 to one million times. (Examples of this: a. The publicized use of wheat straw from such a contaminated soil, many miles from the point of explosion of the first atomic bomb in southwestern desert, for the manufacture of the cellulose product for x-ray films. All the films were ruined. b. Some of the vessels at Bikini seemed to get more rather than less radioactive as time went on attributed to concentration of radioactive material of the water by algae growing on the bottom. The worst of these were towed out to sea and sunk.)

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This brings up the question of what would happen to the population generally in case of widespread contamination of the soil and water that produce our food. Would the long range constant exposure to small amounts of radioactivity be dangerous? It is feared that it would since these materials tend to be concentrated again in the blood-forming organs where they do the most harm. Aplastic anemia which is now a rarity would almost certainly become one of our most common diseases, and up to the present time, our only method of treatment is frequent transfusions. It is even conceivable that it might become difficult to find donors who can spare blood.

5. Though as stated before, there is no adequate defense against the "Gamma Rays", it is nevertheless a fact that many survivors with sublethal exposure can be saved who would otherwise die for lack of care if a proper defense plan is worked out ahead of time.

In Nagasaki, the Medical School was 2,500 yards from the epicenter of the explosion. Though the walls still stood, there were no survivors, 600-800 corpses were still lying around the rooms and corridors a month or six weeks after the disaster. It is probable that many of these would have lived had help been available within 24 hours, but the lack of plan and organization to bring in help from outside or to evacuate, trebled or quadrupled casualties. This also exemplifies how utterly helpless the stricken locality may be.

Dr. Warren later showed another talking movie on "Radiological Security" which brought out the following facts:

1. There were about 200,000 people working on the Manhattan Project and many more thousands involved in the South Pacific tests.

2. The radioactivity released at each of the bomb explosions was equivalent to that from 1,000 or more *tons* of radium.

3. In spite of this tremendous hazard, not one single person was injured.

4. The means of preventing harmful exposure were chiefly thoroughly trained "monitor" crews which preceded working parties in every locality. These crews were armed chiefly with Geiger counters and ionization chambers (R-meters). In addition, each individual exposed (monitors and workers alike) carried "dosimeters", instruments which measured cumulative exposure in fractions of an R-unit. All instruments were turned in each night, readings recorded, and recalibrated for the next day's use. Only a very few, chiefly "monitors", received sufficient exposure to warrant evacuation off the project to the United States and as stated before, none of these has shown subsequent ill health. The maximum allowable dosage was 0.1 R-units a day. If the recorded dosage exceeded this amount for several days, the investigator was ordered off the project for a rest period.

5. In addition to this, each person working in a doubtful area carried a patch of unexposed film which could be developed and processed so as to give quantitative information as a check on the dosimeter. This picture was obviously shown to demonstrate in a striking way what could be accomplished in exposed areas in time of disaster by proper preliminary organization, discipline, training, and materials.

Dr. Herman S. Wigodsky, Professional Associate of Committee on Atomic Casualties (National Academy of Sciences), was conducting a long range study of the effects of exposure to radiation. The survivors of Hiroshima were being followed very carefully from the standpoint of Public Health and Vital Statistics. Comparable records were being compiled for the City of Kure, about the same size and character and with a non-exposed population as control. The Japanese are cooperating in this study. Some of the answers as to the effect of long-term minimal exposure from soil and water may come out of this.

Capt. George W. Lyons, MC-USNR, Chief of Radio Isotope Section of VA, was scheduled to talk on "Biological Warfare", but this subject was apparently too hot for discussion at the present time so the subject was changed to "Chemical". He mentioned the "Bull Report" (Study of Civilian Defense) as an excellent guide for planning. He also stated that the Germans had developed a gas toward the end of the war with a physostigmine-like action for which our gas mask offered no defense. It was absorbed through the intact skin and killed with vomiting, extreme myosis, and convulsions. It was never used probably because we had control of the air and retaliation even with older gases would have been terrific.

Dr. Hans H. F. Reese, Professor of Psychiatry, University of Wisconsin, had worked with Psychological Warfare Section during World War II. He discussed the extreme value of demoralizing the enemy and maintaining high civilian morale in modern warfare.

Dr. Edward L. Bortz, President of A.M.A., began by stating that he had previously been heartily in favor of U.M.T. as the only logical basis for total defense, but had recently become convinced that such a policy would be a waste of energy and resources which could be more effectively employed in other directions. (None of the many delegates with whom this proposition was discussed agreed with Dr. Bortz in his final conclusion, and in fact, all agreed the channels into which he would direct these energies and resources, enumerated below, could not possibly be so productive of results as with U.M.T. Had pressure of educators been too great?)

The things which Dr. Bortz felt to be important in development of a defense plan were as follows:

1. Development of a flexible and coordinating Disaster Administration with ramifications down to the lowest level.

2. Training of "monitoring" teams both in detection and security discipline.

3. Development of facilities for obtaining of vast amounts of blood and blood products on short notice with plans and facilities for delivering it to any point immediately on demand.

4. Dissemination of helpful and hopeful information on the civilian front with stern suppression of harmful

rumors and propaganda.

5. Education so as to develop a "nuts and bolts" attitude toward the atomic problem. This was accomplished on a large scale on the Manhattan Project and at Bikini and can be made nationwide. Our people work with high voltage electricity and in TNT plants for their daily bread and can be taught the same attitude toward the Atom. It must be brought down to earth from the stratosphere of the supernatural, mysticism, and the "end of the world" attitude, and faced along with other awe-inspiring natural phenomena.

6. A vigorous and unrelenting attack on all totalitarian ideologies with eradication of all such influences even in the smallest communities. At the same time, the whole country must be made to feel by comparison that our priceless treasures—freedom, the dignity of the individual, and the Bill of Rights—are worth any amount of suffering, privation, and sacrifice, so that when fighting is inevitable, they will carry on to the bitter end, and allow nothing to stop them short of complete achievement which has *not* been the case in either of our World Wars. The fight on the ideological level should be won before armies take the field, to insure complete victory.

The next order of business was a "Panel Discussion of Civilian Medical, Health, and Sanitary Problems in a National Emergency and Programs of Governmental and Civilian Agencies to Meet Them".

Dr. Perrin H. Long, a member of the Council, described the formation of the "Society of Medical Consultants of World War II". They meet with the Surgeon General for one day each month. He presents his immediate problems and they consult and advise. Two results of such consultation were cited:

1. A civilian (reserve) medical officer is placed on active duty for six weeks as Assistant to the Surgeon General's GI (Personnel) Section. Dr. Thomas of Johns Hopkins and Dr. Middleton of Wisconsin have already been assigned and others will follow.

2. There had been much complaint from doctors assigned to foreign duty that they were forgotten and neglected and had no teachers to develop them. Plans have been completed to have two distinguished teachers of medicine visit every medical installation in the European and Japanese Theaters each month, primarily for teaching ASTP's.

Dr. G. Foard McGinnes, Vice-President for Health Services, American Red Cross, outlined the organization of Red Cross and stressed the policy of cooperating with duly authorized local authorities in emergencies. Their organization was maintained in a state of readiness to meet disaster and could be mobilized at any designated locality on short notice. They are now in process of developing a nation-wide Blood Bank. The State of Massachusetts was the pilot project and is now completely organized, and in addition, seven large cities. The equipment and facilities in these centers is such that there can be a threefold expansion of output in time of dire emergency or war, simply by addition of trained personnel from local medical installations which has already been arranged for. This project has the backing of the A.M.A. and the House of Delegates has appointed a committee of five members who are in constant touch as advisors and as liaison with the local profession. This work will be speeded up and expanded as fast as local cooperation can be obtained.

There was no representative of the National Security Resources Board since Mr. Russel J. Hopley had just been appointed the day before and, of course, had not yet named the head of the Medical Section.

Lt. Col. Barnet W. Beers, Recorder for the Committee on Civilian Components, Office of the Secretary of Defense, answered some objections which had been made to "Civilian Defense being administered by the Armed Forces". There was obvious apprehension that professional ranks would be depleted even more than in World War II if there was no civilian check.

It was explained that the committee which he represented had no executive function and no authority save to make studies, report to, and advise with Secretary Forrestal on all matters relating to Civilian Defense. He further stated that Mr. Hopley's Board, acting directly under the President of the United States, was the only present authority for allocation of all personnel (professional or otherwise) and materials.

Colonel Beers then called attention again to the "Bull Report" which he stated had been concurred in by all defense agencies. ("A Study of Civil Defense"). He felt that this pamphlet should be carefully studied and local organizations set up according to its advice.

Later Mr. Hopley's organization (NSRB) will develop the master plan for the whole country and then all local and state plans can be coordinated with it. There is no use in writing Mr. Hopley now because he cannot possibly answer questions without much study, but there should be no delay in the beginning of local planning not only to take care of ourselves but also our neighbors should necessity arise. Do not expect to be able to get Geiger counters and ionization chambers now. Manufacturers are increasing production steadily but output is all allocated at present. Mobile teams will be located strategically to cover the whole country until such time as local units can be organized, trained, and outfitted.

Dr. James B. Mason, Chairman, Professional Standards Board of Veterans Administration, stated that VA hospitals for the most part were located in the peripheral zones of communities and so might escape when other medical facilities were destroyed. This would be of distinct advantage to the communities. He felt that it was probable that in case of war, Veterans' facilities might be turned over to the Armed Forces as needed; no plan had yet been worked out but it was probable that the professional staffs, all Veterans, would be called back into service and assigned to run them under the Defense setup. Practically all Residents had seen one year's active duty and so according to previews of the new Selective Service Law, would not be called until other professional resources had been exhausted. Dr.

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Mason offered the fullest cooperation of the VA nationally and locally in Medical Defense planning.

The next panel was "Medical, Health, and Sanitary Problems of the Military Establishment in the Event of National Emergency".

Col. William L. Wilson, M.D., Special Representative of the Surgeon General of the Army, mentioned the confused competition between the various Armed Services which resulted in taking 6.5 doctors per 1,000 soldiers, which was admittedly much too high a number. He called attention to the appointment of the Hawley Committee now at work coordinating all of the Medical Services and eradicating duplication of facilities. He stated the Armed Services on their own had already taken up the matter of medical supplies with the result that 95 per cent of all specifications were identical for all services.

He passed around a mimeographed circular which was "Restricted" and cannot be quoted, showing the very serious deficiencies in professional personnel which exist at the present time.

He spoke of recent revisions in MR1-9 (Physical Standards for Mobilization) which will make many more men acceptable and of the plans for more complete utilization of available man power. To illustrate, he read the mobilization order of the Emperor Haile Salassie of Ethiopia which was in effect:

1. All able-bodied men and boys large enough to carry spears will go immediately to the battle.
2. Each married man will take his wife with him to cook his food and care for him.
3. Each unmarried man will take with him an unattached woman for the same purposes.
4. Any able-bodied man found at home tomorrow morning will be hanged in his doorway.

He called attention to the fact that if U.M.T. became law, these partially trained men would become the backbone of Civilian Defense. They would have undergone intensive indoctrination in any environment which would impress it and make it stick. They would be trained to take care of themselves and others in gas, biologic, and even in atomic warfare.

Rear Admiral Morton D. Willcutts, (M.C.) U.S.N., spoke for the Navy. He confirmed what Colonel Wilson had said and stressed economy in both personnel and supplies. He stated that we were developing a real economic barrier to war which was just beginning to receive recognition:

1. Julius Caesar traveled on foot, was inexpensively equipped, lived on the conquered countries, and took much booty, so the cost of destroying one enemy has been estimated at about 50 cents.
2. Each enemy corpse cost Napoleon about $800.00.
3. In the Civil War it was $2,000.00.
4. World War I, $22,000.
5. World War II, $200,000.
6. World War III—estimated—$2,600,000.

In the atomic type of war, there will be little or no acceptable booty and counter destruction will be heavy, so when the total bill is estimated ahead of time, it should be pretty obvious that even the victor is likely to bankrupt.

The only other thing worth recording was the fact that the Navy also is dangerously short of doctors. The exact figures were not given as for the Army, but it was demonstrated by graphs and percentages to be, if anything, somewhat worse off than the Army. This probably accounts for the fact that the Navy is issuing no more orders of separation to their V-12's.

In both the Army and Navy discussion, the status of both Reserve and A.U.S. medical officers was taken up as a means of making up, temporarily at least, the crippling deficiencies in medical ranks. It was stated that the Solicitor General had given an opinion that due to some technicality (which I did not understand) in the method of releasing men from the service, they could only be called up for brief training periods, not for extended active duty or overseas service save as volunteers unless the Congress amended the law or a state of emergency was declared.

Major General Malcolm C. Grow, the Air Surgeon, did not appear but sent his Executive Assistant. His report contained little of interest (since they had no separate Medical Corps) save that it was obvious that they felt that their problems were so different from the other services that a separate establishment was a necessity. It was also obvious that they were making a big fight for it before the Congress in the face of all of the efforts of Secretary Forrestal and his Hawley Committee to effect a consolidation for reasons of efficiency and economy.

Dr. John B. Alsever, Consultant on Professional Standards, Hospital Division, U.S.P.H.S.:—About the only new thing that he added to what had already been said was to call attention to the role of the National Institute of Health, the Epidemiological Section and the Field Services in "Biological" warfare. He was "shushed" and went into no further detail. This really must be a hot subject. The role of the U.S.P.H.S. in a state of emergency is too obvious to record here.

Col. Richard H. Eanes, M.C., Office of Selective Service Records, a Virginian from Richmond:—He reviewed the medical work of Induction Boards, admitting many mistakes during the early years and much improvement later. Mention has already been made of changes in MR1-9 for better utilization of available man power. Colonel Eanes thought that the new law, not yet before a committee, would turn down a much smaller percentage but would present the tremendous problem of finding places where sub-standards personnel may be best utilized. Colonel Eanes had an advance copy of the new law. It was drawn up under two separate "Titles", the first for Selective Service until such time as U.M.T. went into effect, and the second for U.M.T. itself. This was done so that if the fight of the schools, colleges, and churches against U.M.T. became too hot politically, the whole bill need not be killed.

Some of the provisions of the bill were discussed:

1. All men between 19 and 26 who had not already served.

2. *All doctors up to 45* who had not served one year.

3. Nurses and dentists were also to be drafted but age restrictions were not given.

4. The induction would be decentralized as before.

5. Doctors would be asked to serve on these Boards *without compensation* as before.

The Secretary (Dr. Meiling) read a letter to the Council from the Canadian Medical Society which stated that they had already set up an active Medical Defense Plan and suggested that when our own plans were developed, representatives of the two countries collaborate for the common good.

This concluded the open sessions since the delegates were not invited to the executive session of the Council, the decisions of which would be communicated through the *Journal*.

Since there was some time remaining before lunch, the floor was thrown open to delegates so that questions might be asked in an effort to crystallize the information presented into some form of report which might be helpful to the State organizations in laying preliminary plans while awaiting advisories from Mr. Hopley's Board, and the following appear to me to be the most important.

1. The situation with Russia is so tense and inflammable, the necessity for us to maintain "face" if we are to maintain leadership for our ideology so obvious, the persistence with which Russia piles aggravation on insult in their incessant efforts to dislodge us from Western Europe and the Near East, all portends a future which though still unpredictable is ominous to say the least.

2. Though the question as to whether Russia possessed atomic weapons was asked on several occasions, the answer was always to this effect: The basic scientific knowledge is now in the possession of all nuclear physicists; Russia has all the materials necessary and in abundance; in addition to whatever "know-how" she may have developed on her own, she is known to have collected valuable information through her Intelligence Service both in Canada and in this country. Under these circumstances, it would be idiotic for us to drift along in a fool's paradise for the two or three years of grace given us by our "prophets", especially if we take into account the two tremendous handicaps which amount almost to an open invitation to an aggressor to attack:

a. Our traditional attitude to war which demands that we *receive* the first blow as at Pearl Harbor. The rigid avoidance of the aggressor role.

b. The economic topography of our country with its congested industrial areas upon which the outcome of any war would depend, and our long coast line and easily accessible harbors, each with its rail network and its metropolitan area. This setup is ideal for atomic attack as compared with the widely dispersed industrial plant of Russia beyond the Urals.

c. Special comment was made on the ease with which ordinary tramp steamers, even of American registry, might be loaded, with atomic bombs beneath the cargo, and tied up in one of our harbors to explode. If timing was good, this might occur in many of our harbors at the same time.

3. The fact that the aggressor always has the initiative and may attack where he pleases, means that defense must be nationwide, integrated, and coordinated to reduce to a minimum the impact of that first "punch".

4. The "Study of Civilian Defense", February, 1948, should be obtained immediately (Dr. Sargent will send one to each delegate but others should be obtained from the Printing Office for the use of each appointee to this work) and studied carefully.

5. Organizations should be developed as advised in the "Study" with whatever local modifications may be necessary.

6. Preliminary work such as inventories of trained personnel and supplies, materials, and resources should be begun. Where obvious deficiencies exist, efforts should be made to overcome them (such as training nurses aides in large numbers to help compensate for the shortage of registered nurses; development with or without the help of the Red Cross of donor groups or even blood banks).

7. Urge upon local authorities (Governors, Mayors, County Supervisors) the absolute necessity for professional advisement in all planning for disaster and professional direction of all professional projects in such planning. The trend of the times is for the aggressive layman to attempt to take upon himself the direction of the affairs of the more philosophical professional (medical) man. We might survive this unrealistic approach in peace time, but never in time of disaster and war.

8. Specialized instruction will be afforded on a regional basis, but like specialized equipment (Geiger counters and ionization chambers) will have to await the organization and functioning of Mr. Hopley's committee. Don't write about these now.

9. It goes without saying that overall medical planning should coordinate the efforts of all professional, semi-professional, volunteer, and allied activities, just as the master plan should include medical advisement and direction.

10. The Council should be kept informed of progress in planning and will act as a clearing house for ideas and means of accomplishment.

Respectfully submitted,

JOHN P. WILLIAMS, M.D.,
Chairman, Committee on National Emergency Medical Service.

MEDICAL SOCIETY OF VIRGINIA

PUBLIC RELATIONS

HENRY S. JOHNSON, *Director.*

Work With the Press

A number of papers throughout the State have replied to the letter concerning press features which it is hoped can be provided this year. Thus far, only one editor has indicated that he will not be able to use materials furnished by this office.

Of the favorable replies, editors are split evenly in their choice of columns—"Test Your Medical IQ", "Health Talks" and "It's Your Health". Several have expressed an interest in more than one of these features.

As a reminder, a second letter has been sent to those papers which have not yet answered the original communication. In addition, all members of the District Council have been furnished a list of the papers in their respective Congressional Districts, to facilitate their efforts in contacting editors regarding this program. This was mailed so that it should reach these doctors at approximately the same time the second letter was received by the local editors.

It is hoped that members of the District Council, and other interested doctors, will get in touch with newspaper officials in their particular areas, indicating their interest in these materials and also expressing appreciation to those editors who have already agreed to publish them.

These columns on health and medical care will be made available as soon as a sufficient number of papers express a willingness to make use of them.

Radio Programs

The following is a list of the 12 stations which have been written regarding the Medical Society's proposed radio program this year:

WPIK, Alexandria, Hugh Holder, Program Director
WOPI-FM, Bristol, W. A. Wilson, President and General Manager
WCHV, Charlottesville, Randolph Bean, Manager
WBTM, Danville, Milton N. Adams, Program Director
WFVA, Fredericksburg, Walter F. Harris, Jr., Manager
WSVA, Harrisonburg, Dick Johnson, Program Director
WLVA, Lynchburg, Philip P. Allen, Manager
WMVA, Martinsville, John W. Schultz, General Manager
WTAR, Norfolk, George L. Brantley, Public Service Director
WDBJ, Roanoke, Paul Reynolds, Program Director
WRNL, Richmond, Richard Velz, Program Director
WINC, Winchester, J. C. Morgan, Production Manager

Three of these stations — WOPI-FM, WCHV and WFVA—have informed this office that they will gladly cooperate in presenting a program of health and medical care information as a public service.

Present plans call for use of the "Tell Me Doctor" series, which the 12 stations ran successfully for a three-month period last year. These recordings are three minutes in length and thus fit well into a five-minute program, which it is hoped could be aired five times weekly. In cases where a station prefers one 15-minute program, several of these short transcriptions might be arranged with intervals of music or other desirable features.

This year it is hoped that the State-wide program can be presented on a six-month basis.

District Conferences

Members of the District Council for the Ninth Congressional District met on April 22 at the Hotel Lincoln, Marion, from 3:00 to 8:00 p.m.

The program included the following speakers:

Leonard O. Key, Executive Director of Surgical Care, Inc., of Roanoke, "Voluntary Prepayment Medical Care and Hospitalization Plans in Virginia".

Dr. John T. T. Hundley, member of the District Council for the Lynchburg Academy of Medicine, Sixth Congressional District, "A Reference to the Need of Medical Public Relations".

Henry S. Johnson, "Our Suggested Program of Public Relations and Some Suggestions for Members of the Council, District Council and Local Medical Societies, as well as Our Office of Public Relations, in Implementing This Program".

Lieutenant Governor L. Preston Collins, dinner guest speaker, delivered what was referred to as an exceptionally splendid address.

Among those attending were Dr. W. R. Whitman, Councilor for the Sixth Congressional District; Dr. George Kegley, Bland County, Dr. T. C. Sutherland, Buchanan County, Dr. James P. Williams, Dickenson-Buchanan Medical Society, Dr. D. D. Vance, Southwestern Virginia Medical Society, Dr. Mary Johnston, Tazewell County, and Dr. Frank Handy, Wise County, all members of the District Council in the Ninth District; Dr. N. C. Ewing, President of the Lee County Medical Society, and Dr. C. H. Henderson, President of the Wise County Society; Dr. Joshua P. Sutherland, Harman, and Dr. George E. Godman, Chilhowie.

Dr. James P. King, Councilor for the Ninth District, presided over the meeting and Dr. Avery B. Graybeal was in charge of local arrangements.

Dr. Joseph R. Blalock, President of the Smyth County Society and a member of the District Council, extended a cordial welcome and indicated some of the fine work being done by that Society.

Robert L. Anderson, publisher of the *Smyth County News*, was also a guest and made some interesting observations.

A similar meeting for members of the District Council in the Eighth Congressional District was held at the Princess Anne Hotel, Fredericksburg, on Wednesday, May 5.

Speakers were:

R. B. Almack, Director of the Division of Hospital Survey and Construction, State Department of Health, "The Hospital Construction Program in Virginia".

William Shands Meacham, "The Virginia Council on Health and Medical Care", of which he is Director.

M. Haskins Coleman, Jr., Executive Director of Virginia Hospital Service, "Voluntary Prepayment Medical Care and Hospitalization Plans in Virginia".

Henry S. Johnson, "Our Suggested Program of Public Relations and Some Suggestions for Members of the Council, District Council and Local Medical Societies, as well as Our Office of Public Relations, in Implementing This Program".

The dinner guest speaker was Dr. M. Pierce Rucker, President-Elect of the Medical Society of Virginia.

The following members of the District Council were present:

Dr. Frank D. Daniel, Albemarle County; Dr. T. B. McCord, Fairfax County; Dr. W. S. Selden, Fluvanna County; Dr. M. D. Foster, Greene County; Dr. W. O. Bailey, Loudoun County; Dr. E. B. Pendleton, Louisa County; Dr. A. E. Powell, Madison County; Dr. H. C. McCoy, Orange County; Dr. Charles B. Martin, Prince William County. Others at the meeting included Dr. J. L. Stringfellow, President of the Culpeper Medical Society; Dr. T. B. Payne, President of the Fredericksburg Society; and Dr. Ayer C. Whitley, Palmyra.

Presiding was the Councilor for the Eighth District, Dr. Vincent W. Archer, while arrangements in Fredericksburg were handled by Dr. C. A. Nunnally, member of the District Council from King George County.

In addition to the discussions indicated above, considerable time was devoted at both meetings to consideration of suggested specific activities of a public relations nature for the local societies and for members of the District Council.

Samples of the Kit of Materials were also displayed at Marion and Fredericksburg.

Three other meetings of this nature are scheduled during the month of May.

BOOK ANNOUNCEMENTS

You and Your Doctor. A Frank Discussion of Group Medical Practice and Other Modern Trends in American Medicine. By BENJAMIN F. MILLER, M.D., Clinical Professor of Medicine, George Washington Medical School; Research Associate in Medicine, National Research Council; etc. Whittlesey House, McGraw-Hill Book Company, Incorporated. New York. 1948. x-183 pages. Cloth. Price $2.75.

The Battle of the Conscience. A Psychiatric Study of the Inner Working of the Conscience. By EDMUND BERGLER, M.D. Washington Institute of Medicine, Washington, D. C. 1948. x-296 pages. Cloth. Price $3.75.

Psychiatry for the Pediatrician. By HALE F. SHIRLEY, M.D., Associate Professor of Pediatrics and Psychiatry, Executive Director of the Child Psychiatry Unit, Stanford University School of Medicine. New York, The Commonwealth Fund. 1948. xii-442 pages. Cloth. Price $4.50.

History of the Medical Society of the County of Westchester. 1797-1947. A compilation from the available minutes of the Society and various contemporary sources during the years for which the minutes were lost. Published by the Medical Society of the County of Westchester. 1947. xv-193 pages.

Neuroanatomy. By FRED A. METTLER, A.M., M.D., Ph.D., Associate Professor of Anatomy, College of Physicians and Surgeons, Columbia University, New York. Second Edition. St. Louis. The C. V. Mosby Company. 1948. 536 pages. With 357 illustrations, including 33 in color. Price $10.00.

Synopsis of Pediatrics. By JOHN ZAHORSKY, A.B., M.D., F.A.C.P., Professor of Pediatrics and Director of the Department of Pediatrics, St. Louis University School of Medicine, and Pediatrician-in-Chief to the St. Mary's Group of Hospitals; etc. Assisted by T. S. ZAHORSKY, B.S., M.D., Senior Instructor in Pediatrics, St. Louis University School of Medicine, and Assistant Pediatrician to the St. Mary's Group of Hospitals. Fifth Edition. St. Louis. The C. V. Mosby Company. 1948. 449 pages. With 158 text illustrations and 9 color plates. Price $5.50.

Successful Marriage. An Authoritative Guide to Problems Related to Marriage from the Beginning of Sexual Attraction to Matrimony and The Successful Rearing of a Family. Edited by Morris Fishbein, M.D., Editor, Journal of the American Medical Association and Hygeia. And Ernest W. Burgess, Ph.D., Professor and Chairman, Department of Sociology, University of Chicago. 1947. Doubleday and Company, Inc., Garden City, N. Y. xxi-547 pages.

XUM

EDITORIAL

The Fifty Year Club

A NUMBER of State Societies are honoring those of their members who have practiced medicine for fifty years. Indiana State Society gave to each member of the half a century class a handsome gold pin. In 1947 the Medical Society of the State of New York bestowed upon each member who had practiced medicine for fifty or more years a certificate signed by the President of the Society and the Secretary. In addition, the Society issued a handsome album with a brief biographical sketch of each doctor. Whenever it was possible, a portrait taken when the doctor began the practice of medicine was published along with the present day likeness. It is striking how in this "Then and Now" group the practice of medicine had improved the looks of the doctor. The whole group of 432 men and women (for there are nine women) make a remarkably fine appearance. We are reminded of Robert Louis Stevenson's famous lines, "There are men and classes of men that stand above the common herd, the soldier, the sailor, and the shepherd not infrequently; the artist rarely; rarier still, the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization."

This year in Mobile the Medical Association of the State of Alabama inaugurated their Fifty Year Club with 132 members. Physicians who graduated fifty or more years ago were asked to sign the "Fifty Year Club" register when enrolling at the registration desk. Their names were printed in the program and, on the morning of the second day of the Annual Session, recognition of the "Golden Anniversary in the Practice of Medicine" of these men was made and certificates were awarded to those who were present. We asked Dr. Douglas L. Cannon, the Secretary-Treasurer of the Association what had been the reaction to such a club and he stated that it had all been favorable. A bystander remarked that probably there were some who should be members of the club but who would not admit their ages. Be that as it may, the president stated when he awarded the certificates that several were present who had not been to a meeting of the Association in years.

National Emergency Medical Service

THE report of Dr. Williams, our delegate to the Council of National Emergency Medical Service (page 306 of this issue), makes disheartening reading. Nevertheless all should read it carefully. The experts tell us that we have only about two or three years to prepare for civilian defense in Atomic Warfare. They speak of incomprehensible forces. For instance, they say that an explosion of one bomb releases more energy than one thousand tons of radium. The demonstrations at Nagasaki and Hiroshima showed what the local effect is. They are still studying the remote effects. Radioactive particles can be carried by dust hundreds of miles. When this dust settles it contaminates the soil and water with minimal amounts of radioactive material. This in turn can be concentrated by as much as a million times by plant life. For instance, some of the vessels at Bikini seemed to get more radioactive with time, which was thought to be due to algae growing on their bottoms. The worst were towed out to sea and sunk.

However, there are some bright spots. The Medical School at Nagasaki was twenty-five hundred yards from the center of the explosion. The walls remained

standing. Inside the building six hundred to eight hundred corpses were found lying about the rooms and corridors a month or six weeks afterwards. It is thought that many of these persons could have been saved had there been an organization that could have brought help from the outside. In the Manhattan Project there were about two hundred thousand persons, and many more thousands worked on the South Pacific Tests and not a single person was injured. From these tests and the study of the Japanese devastated areas, plans for civilian relief are being evolved. In case a city is A-bombed, help must come from the outside. Thoroughly trained "monitor" crews armed with Geiger counters and ionization chambers survey the area and say when the relief crews can enter. The workers as an added precaution carry "dosimeters". The treatment of the radio injured is blood transfusion. The blood will be supplied in tank cars. Thus many in a devastated city can be saved.

Another bright spot is that it costs money to kill with modern weapons. The Civilian Relief may sound terribly expensive, but that is small change to the cost of killing. Rear Admiral Willcutts' figures on the cost of killing an enemy are illuminating. While it cost Julius Caesar only about fifty cents to kill one enemy, each enemy corpse cost Napoleon about eight hundred dollars. In the Civil War the cost rose to two thousand dollars. In World War I it was twenty-two thousand dollars and in World War II it was two hundred thousand dollars. He estimates that in World War III the cost will be two million six hundred thousand dollars. No nation can afford to kill many of us at such a price.

The Virginia Environment

SOME months ago, when we were discussing various factors that entered into the National Health Problem, we had occasion to discuss the Virginia climate. Its freedom from extremes and its variability make it both healthful and pleasant. In some years we have a taste of winter sports, but for the most part outdoor work and such sports as golf can be engaged in throughout the winter season. Tornadoes that cause the loss of life and property to the South, to the West and to the North of us, are unknown in Virginia.

Recently we acquired an old book and an observation therein tempts us to discuss the Virginia environment more fully. The author, Robert Couper, was an impecunious Scot who held the office of tutor in a Virginia family. At the outbreak of the American Revolution, he returned to Scotland and studied medicine at the University of Glasgow. In 1799 he published anonymously "Speculations on the Mode and Appearances of Impregnation in the Human Female; with an Examination of the Present Theories of Generation". The book has no value medically except perhaps as an example of how far wrong one can go when one depends upon theorizing. However, it contains one passage that is of interest to Virginians. In discoursing upon the effect of heredity and climate, he says "the sturdy and generous Briton, notwithstanding the shortness of the period, and the uninterrupted intercourse (with the old country) is traced with uncertainty in the vain, effeminate and cruel Virginian". Evidently Couper did not like Virginia, but he certainly was complimentary of the potency of the Virginia environment. To change a Briton in the course of a generation or so, so that a Scot could scarcely recognize him is a real triumph.

The significance of the adjectives that Couper used is merely that he did not like Virginia and Virginians. These same "vain, effeminate and cruel" Virginians were so imbued with "life, liberty and the pursuit of happiness" that one wrote the Virginia

Bill of Rights and another the Declaration of Independence. Another "vain, effeminate and cruel" Virginian lead the armies of the Colonies in their successful Revolution, and thousands of Virginians fought under this great leader. Had Couper seen them at Valley Forge, we doubt if he would have called them "vain, effeminate and cruel". An hundred years previously the same type of Virginians under the leadership of Bacon almost succeeded in throwing off the yoke of despotism. So potent was the name Virginia, that in 1622 a group who called themselves Virginians and who were on their way to Virginia, drew up the celebrated Mayflower Compact.

Thus we see that the love of liberty was the outstanding characteristic of the Virginian. If Mason and Jefferson were the pens of the Revolution and Washington the sword, Patrick Henry was the tongue. Henry struck a responsive cord when he exclaimed in a proscribed meeting of the House of Burgesses "give me liberty or give me death". Life without liberty was not worth living, and in Virginia they lived with gusto. In Williamsburg there is the site of the first theater in America. The planters of Eastern Virginia needed little excuse to come to Williamsburg for horse racing and balls, and lacking an excuse to go to the Capitol, they danced and fox hunted at home. Then too the average planter had a well selected library. Truly along with the love of liberty went the pursuit of happiness. Early the Virginian learned the fine art of gentle living.

What are some of the factors that brought about this transformation? In the first place he had precious little liberty until he crossed the ocean. He was therefore in a position to appreciate it. The first settlers at Jamestown practiced communism and very nearly starved to death. When they were given ownership of land, things went better. Soon they had the feeling of importance that the ownership of land brings. Next they were frontiersmen and that gave them self reliance. But they were not ordinary frontiersmen, they were deep water frontiersmen. The rivers and tidewater creeks enabled the average planter to have his own wharf where schooners could bring furniture, dress goods, books and news from England and return with a cargo of lumber or tobacco. It was only when the search for new land carried the Virginian beyond the tidewater that his communication with the mother country became difficult. Fourthly, there were no great cities. The Virginian is essentially rural. He has always had plenty of elbowroom and has lived close to nature. Hunting and fishing have always been popular pastimes, and have been in reach of all classes.

To summarize, in the very beginning the Virginian knew the value of liberty because he had very little of it before he came to Virginia. Soon he learned to love the soil, especially the soil of Virginia. The frontier taught him self reliance, but he never got out of touch with civilization. His neighbors were close enough, but not too close, for him to love them, and his climate accentuated the joy of living. No wonder then, the Virginian loves his God and has a very real sense of the dignity of man. Communications with him have always been comparatively easy—first water transportation, then rail, and more recently good roads and air travel. The Virginian has always been able to go places but, the more he traveled, the greater his love for his State. He may have seen higher mountains in one place, clearer streams in another, bigger trees in another, greener grass in another, more game or better fishing elsewhere and better oysters perhaps, but no other place had just the right proportion of the good things and none had better living. (None had a Smithfield or Orange County ham.) The frontier has disappeared, but we have in its place an historic heritage. The other factors remain. We pray that the Virginian may continue in his gentle ways, his respect for his fellow man and his love of God.

SOCIETIES

The Accomack Medical Society

Met in Onancock on May 6th with the President, Dr. Rooker J. White, presiding. Dr. John W. Robertson read papers on Avocation and Vocation, following which he exhibited roentgenograms showing familiar and rare conditions. Mrs. J. L. DeCormis, president of the Woman's Auxiliary to the Medical Society of Virginia, was a guest and presented a project sponsored by the Northampton-Accomack Auxiliary in memory of the late Mrs. Grace Wilkins Holland which is to be a tumor or cancer-detection clinic on the Eastern Shore. Delegate and alternate to the State meeting were elected.

The following are the 1948 officers: President, Dr. Henrik Shelley, Chincoteague; vice-president, Dr. John W. Robertson, Onancock; and secretary-treasurer, Dr. James Corbin Doughty, Onancock (re-elected)

Arlington County Medical Society.

At the meeting of this Society held on April 15th at the Washington Golf and Country Club, the guest was Dr. Emil Novak, professor of gynecology at the Johns Hopkins Medical School. The subject of his lecture was "The Use and Abuse of the Endocrines in Gynecology" and this was followed by an interesting discussion. There was a large attendance with members of the surrounding county medical societies and Washington as guests. Following the lecture, a buffet supper was served.

Dr. W. P. Hammer and Dr. Leo Solet, both of Arlington, are president and secretary, respectively.

Lynchburg Academy of Medicine.

Dr. H. L. Riley, Jr., President, presided at the May 10th meeting of the Academy, with Dr. John T. T. Hundley in his accustomed place as secretary. Dr. W. A. Browne, Director of Communicable Disease Control of the State Department of Health, was the guest speaker and had as his subject "The Salmonella Infections and Diagnosis by means of the H. & O Reactions".

Richmond Academy of Medicine.

Dr. H. Hudnall Ware has been named president of the Academy, succeeding Dr. E. T. Gatewood, resigned.

Rockingham County Medical Society.

Officers of the Rockingham County Society for 1948 are Dr. B. S. Yancey, president, and Dr. Hollen G. Helbert, secretary. Both are of Harrisonburg.

The Southwestern Virginia Medical Society

Held its semi-annual meeting at Hotel General Shelby, Bristol, on May the 6th, Dr. D. D. Vance of that city, president, presiding. There was an attendance of 85 at the afternoon session and 126 members and guests at the night session. Papers were presented at the first session by Dr. Norman G. Patterson, Bristol, on "Time Saving Minor Surgical Procedures", and by Dr. Edwin J. Palmer, Roanoke, on "Notes on the Private Practice of Psychiatry". Following these, there was a business session, at which several new members were received and delegates named to the State Society meeting to be held in Richmond. At this time, also, the President appointed Dr. J. C. Motley, of Abingdon, chairman, and Drs. R. H. Grubbs, Christiansburg and A. P. Jones, Roanoke, on the Cancer Control Committee. He stated that he will appoint a committee from each county on Public Relations.

Preceding the banquet which was given through the courtesy of The S. E. Massengill Company of Bristol, Virginia-Tennessee, there was a tour of the Company's plant, which was very interesting and informative. Guest speakers at the night session were Dr. Frank Johns, Richmond, who spoke on "Cancer of the Colon", and Dr. Charles M. Caravati, also of Richmond, whose subject was "Jaundice". The next meeting of the Society will be in October at Pulaski, with headquarters at the Maple Shade Inn.

ANDREW F. GIESEN, M.D.,
Secretary.

Warwick County Medical Society.

At the meeting of this Society on May the 11th, Mr. Haskins Coleman, of Richmond, gave a discussion on Blue Cross and Blue Shield. Dr. William A. Mitchell and Dr. George S. Grier, III, both of Newport News, are president and secretary, respectively, of this Society.

Virginia Peninsula Academy of Medicine.

Dr. Robert G. Douglas, Associate Professor of Obstetrics of Cornell University School of Medi-

cine, spoke before the Academy on April 19th, his subject being "The Management of Prolonged Labor". There was an attendance of eighty, including the following special guests: Drs. C. J. Andrews, Brock Jones, John R. Kight, Richard B. Nicholls, Millard Savage, of Norfolk; H. Hudnall Ware, Henry Spalding, Edwin Rucker, Eric Schelin, of Richmond; James M. Habel, Jr., Suffolk; John Payne, Sunbury, N. C.

At the May 17th meeting, Dr. Maurice C. Pincoffs, Professor of Medicine, University of Maryland, was the guest of the Academy and the Kecoughtan Veterans Administration. The Society had dinner at the Kecoughtan Hospital after which Dr. Pincoffs conducted the Academy's annual clinicopathological conference. Two cases from the files of the Veterans Hospital were analyzed. In the absence of the President, Dr. Paul Hogg, and the Vice-President, Dr. Eldred S. Jones, the meeting was presided over by Dr. Chester D. Bradley, Secretary-Treasurer.

New officers elected at this meeting for the next year were: President, Dr. George G. Hankins, Newport News; vice-president, Dr. Emmanuel Greenspon, Newport News; secretary-treasurer, Dr. William A. Read, Newport News. The Academy adjourned till next September.

NEWS

Registration by Virginia Doctors.

At the recent meeting of the General Assembly, a bill introduced by Senators Caudill, Hagood and Kendig was passed, providing for annual registration for renewal of license to practice any branch of the Healing Art in Virginia. This was approved by the House of Delegates at the meeting of the Medical Society of Virginia last fall.

In brief, this statute states that the Secretary of the State Board of Medical Examiners shall send a registration card to each practitioner of the Healing Art in Virginia. This practitioner shall fill it out and return it to the Secretary not later than June 30, of each year, with a fee of one dollar. The Secretary shall then mail him a renewal certificate. All State Board licenses to practice the Healing Art in Virginia expire on June 30, and are not valid unless renewed by registration. On or before September 1 of each year, the Secretary shall publish a list of licensed practitioners.

Inasmuch as the American Medical Association Directory has not been issued for six years and the new one will not be out until January, 1949, some difficulty is anticipated in securing the names and present addresses; it is suggested that any physician who has changed his address recently notify the Secretary of the State Board of Medical Examiners, 306 Medical Arts Building, Roanoke, Va.

It will be of interest to know that the following states now have annual registration: Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, District of Columbia, Florida, Georgia, Hawaii, Idaho, Indiana, Iowa, Kansas, Louisiana, Minnesota, Missouri, Montana, Nebraska, Nevada, New Mexico, New York, North Dakota, Oklahoma, Oregon, Pennsylvania, South Dakota, Texas, Utah, Washington, Wisconsin and Wyoming.

Large Attendance Expected at June Session of A. M. A.

A possible total registration of 30,000 persons at the annual American Medical Association convention to be held in Chicago, June 21-25, is anticipated by Thomas R. Gardiner, business manager of the Association. More than 6,000 hotel rooms will be required to handle the out-of-town physicians expected to attend the session. These doctors, plus the large number living in the Chicago area, are expected to bring the total number of medical men registering at the session to 12,000. Wives, guests, exhibitors and others will probably bring the complete total of persons attending to about 30,000.

At the last Chicago annual session of the Association, held in 1944, the total registration of physicians reached 7,284. The Atlantic City centennial celebration of the American Medical Association last year brought a total of 15,667 physicians.

Technical exhibits, which present the latest in modern medical and surgical supplies, will occupy at least 50,000 square feet of space on Navy pier. At the Atlantic City centennial session last year,

such exhibits occupied a total net area of 45,500 square feet.

Conference of County Society Medical Officers.

On Sunday, June 20, there will be a conference of County Medical Society Officers in the Red Lacquer Room of the Palmer House in Chicago. Although the program which is to be from 10:00 a.m. to 4:00 p.m. has been prepared especially for officers of the county societies, any member of the A. M. A. is welcome, and it is felt that any doctor interested in county society work would feel well repaid for attendance upon this meeting.

Golf Tournament.

The American Medical Golfing Association will hold its 32nd Tournament on Monday, June 21. The famous beautiful and sporty Olympia Fields has been reserved for the medical golfers' tournament. Dinner will be held in Olympia Fields C.C. Clubhouse, after which prizes will be awarded.

All male Fellows of the American Medical Association are cordially invited to become Fellows of the American Medical Golfing Association; write Secretary Bill Burns, 2020 Olds Tower, Lansing 8, Michigan, for application blank and details. Participants in the tournament are required to present their home club handicap, signed by the Club Secretary—or to accept a handicap set by the AMGA Handicap Committee. No handicap over 30 is allowed.

Canadian Rocky Vacation.

The Oklahoma State Medical Association announces through Dick Graham, Executive Secretary, that they will sponsor for the 3rd time a Post-Convention Tour in conjunction with the A. M. A. Convention which is to be held this year at Chicago, June 19 to 25. They wish to extend a special invitation to the physicians and wives of this state to join them on their trip to the Canadian Rockies.

This 13 Day Tour is all-expense and starts from Chicago on Friday, June 25 at the close of the A. M. A. Convention. The party will visit Jasper National Park, Columbia Icefield, Lake Louise, Banff, as well as spending one day at the Calgary Stampede before returning to Chicago on July 7. The trip includes the choice of menu, finest of hotels with deluxe pullman accommodations as well as complete sightseeing program. All transfers and baggage handling are also included. The tour will be under the personal direction of Mr. Harry E. Kornbaum who has conducted the two previous Oklahoma Medical Association Tours, last year to Quebec and the previous year to San Francisco and the Pacific Northwest.

This tour will be by special train and limited to 130 reservations. Pullman accommodations will be assigned in order of reservations received. For those who are interested, write direct to Mr. Dick Graham, Executive Secretary, Oklahoma City, Oklahoma. A complete day by day itinerary with prices will be forwarded.

Have You Made Your Reservation?

In the April *Monthly* was given a list of Richmond hotels with rates. Those who expect to attend the Richmond meeting of the Medical Society of Virginia are urged to make room reservations promptly. Officers and delegates are requested to be on hand for Sunday evening as, to expedite the business sessions, it has been decided to have the Council meeting on Sunday afternoon and the first meeting of the House of Delegate at 8.00 p.m. that day.

Scientific exhibits are to be a prominent feature of the meeting. Those wishing space for an exhibit may write Dr. Vincent W. Archer, chairman, University Hospital, Charlottesville. As room is limited, requests should be made promptly.

Dates for the scientific sessions are October 18, 19 and 20. Let's make this one of the best meetings in the history of the Society!

Are You Reading the Advertisements In Your Journal?

The advertising pages of the *Monthly* carry much material which should be of great interest to doctors. Are you reading these pages each month to see what products they are publicizing and using the coupons accompanying some of the advertisements? These products have the approval of the Council on Pharmacy and Chemistry of the A. M. A., so should be acceptable to our readers.

This is *your* journal and these people help to make the publication of the *Monthly* possible by the support they give it. Won't you do your part?

XUM

Married.

Dr. William Harrison Higgins, Jr., and Miss Emily Armistead Peyton, both of Richmond, May 29.

Dr. and Mrs. S. E. Massey,

After spending the winter in Florida and Arizona, will be in Wytheville, Va., and Bluefield, W. Va., for the summer months.

Dr. Howard Cain,

Class of '30, Medical College of Virginia, who practiced at Wakefield until last December, received an appointment on the staff of the Hurst-Snyder Hospital at Hazard, Kentucky, and entered upon his duties there, effective May 1.

Dr. P. R. Bryan,

For the past two years at the C. & O. Hospital, Clifton Forge, has located in Lynchburg where he is associated with Drs. Barksdale, Pugh and Haynesworth in the practice of general surgery, with offices in Allied Arts Building.

World Medical Association.

The Council of the World Medical Association, representing twelve different countries, held a four-day meeting in New York, beginning April 26. The Council, which consists of fourteen members, ten of whom are elective, is the governing body of the Association, which was organized in Paris in September 1947. One important matter to come before the Council was the election of a permanent secretary and Dr. Louis H. Bauer of Hempstead, N. Y., a member of the Board of Trustees of the A. M. A. was elected to the office of secretary-general. An elaborate program of entertainment was planned in both New York and Chicago for the foreign delegation.

A Post-Graduate Course in Boston.

A post-graduate course in the Modern Treatment of Fractures and Other Traumatic Conditions will be held at the Massachusetts General Hospital, Boston, September 20th to 29th, under the auspices of the Harvard Medical School. This course is covered by the G. I. Bill of Rights, and is very comprehensive. Further information may be obtained from Assistant Dean, Courses for Graduates, Harvard Medical School, 25 Shattuck Street, Boston, Massachusetts.

Dr. Peter A. Wallenborn,

Class of '44, University of Virginia, was recently released from Service in the Army, and has located at Concord Depot, where he is associated with Dr. R. H. Cross.

On State Board of Medical Examiners.

Governor Tuck has appointed Dr. W. J. Hagood of Clover as a member of the State Board of Medical Examiners form the 5th Congressional District, to fill the unexpired term of Dr. Beverley F. Eckles of Galax, resigned. Dr. Hagood graduated from the University of Virginia in 1943 and served in the Army Medical Corps, spending nearly three years in France and Germany. He is a nephew of Dr. J. D. Hagood, with whom he is associated in practice at Clover.

Dr. E. C. L. Miller,

For a number of years Directing Librarian at the Medical College of Virginia, recently retired, is now enjoying a visit to Hawaii and, while away will visit many points of interest in the Western States. He is taking the trip by plane.

Alumni Dinner.

University of Pennsylvania Medical Alumni will hold a dinner at the Convention of the American Medical Association in Chicago, Wednesday, June 23, at the Lake Shore Club, 850 Lake Shore Drive. On arrival in Chicago, alumni should contact Miss Frances R. Houston, Executive Secretary of the Medical Alumni Society, at the University of Pennsylvania registration booth.

Dr. Walter Reed Again Honored.

The demonstration by Walter Reed of the mosquito transmission of yellow fever was commemorated at the Fourth International Congresses on Tropical Medicine and Malaria held in Washington, D. C., May 10-18. A special meeting was held for this commemoration at which was present James L. Hanberry one of the survivors of the actual experiments conducted by Dr. Reed.

Also a bust of Dr. Reed was unveiled in the Hall of Fame at New York University on May 20th.

Special Lecture at Roanoke VA Hospital.

Dr. Edward Weiss, Professor of Clinical Medicine, Temple University School of Medicine, Philadelphia, co-author of the well-known text books on

psychosomatic medicine and emotional problems, will lecture at this Hospital on Friday, June 18. He will speak on "The Psychosomatic Concept in Medical Practice", and an invitation is extended for those interested to attend.

History of the State Department of Health.

Acting upon a resolution adopted by the last General Assembly, Governor Tuck has appointed a five-man commission to work on the preparation of a history of the State Department of Health. The personnel of this group is Mr. L. C. Bird, sponsor of the resolution; Dr. L. J. Roper, State Health Commissioner; Dr. Wyndham B. Blanton of Richmond; Dr. J. B. Fisher of Midlothian; and Dr. William N. Hodgkin, dentist of Warrenton. It is felt that the work of the State Health Department would make one of the most interesting chapters in the history of Virginia and the Commission is to look into the possibilities of preparing a history of the Department through 1930 and a report is to be made from the group on December 1, 1949.

The Gill Memorial Eye, Ear and Throat Hospital,

Roanoke, has just completed its twenty-first annual Spring Graduate Course, with a total registration of 250 physicians, representing every State in the Union, Canada, Mexico and other foreign countries. The next Course will be held April 4-9, 1949.

News, State Department of Health.

Dr. Mason C. Romaine, Director of the Division of Cancer Control of the State Department of Health, announces that tumor tissue specimens from medically indigent patients suspected of having cancer will be examined free of charge upon request if sent to one of the following pathological laboratories:

Department of Pathology, Medical College of Virginia Hospital, Richmond

Department of Pathology, University of Virginia Hospital, Charlottesville

Dr. Regena Beck, Stuart Circle Hospital, Richmond

Dr. M. B. Beecroft, Buxton Hospital, Newport News

Dr. M. L. Dreyfus, Chesapeake & Ohio Hospital, Clifton Forge

Dr. J. D. Kernolde, Alexandria Hospital, Alexandria

Dr. T. J. Moran, Memorial Hospital, Danville

Dr. L. J. Motyca, Norfolk General Hospital, Norfolk

Dr. J. H. Scherer, 820 W. Franklin Street, Richmond 20

Dr. A. F. Strauss, De Paul Hospital, Norfolk

Containers may be obtained from the Division of Cancer Control of the State Department of Health.

Dr. Walter R. Johnson,

Health Officer of the Alleghany-Botetourt Health District, resigned that position effective April 17 to become Health Officer of Henrico County.

Dr. Lewis Ellsworth Jarrett

Announces the opening of offices in the Marion Drug Company Building, Marion, for general medical practice.

The Virginia Society of Ophthalmology and Otolaryngology

Met in Winchester on May the 8th, under the presidency of Dr. Fred E. Hamlin of Roanoke. The guest speakers were Dr. Frank Walsh of Baltimore and Dr. Stewart Nash of Rochester, N. Y.

New officers elected for the ensuring year are: President, Dr. W. W. Gill, Richmond; president-elect, Dr. Francis H. McGovern, Danville; and secretary-treasurer, Dr. Peter Pastore, Richmond.

Pan American Association of Ophthalmology.

Dr. Conrad Berens of New York was elected president of the Pan American Association of Ophthalmology at the Third Pan American Congress of Ophthalmology held in Havana, Cuba, January 4—10. It was decided to hold the next Congress in Mexico City in 1952.

The Congress adopted "statutes and bylaws", establishing the Pan American Association of Ophthalmology as a continuing organization with the objectives of fostering the progress of ophthalmology, establishing contacts among ophthalmologists of the Western Hemisphere and promoting measures to conserve eyesight and prevent blindness among the peoples of the hemisphere.

Attend Travel Club Meeting.

Dr. H. Hudnall Ware, Richmond, president, and Dr. Waverly R. Payne, Newport News, recently attended the annual Travel Club meeting in Chicago

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of the Southern Interurban Obstetrical and Gynecological Society. They were accompanied by Dr. W. D. Suggs and Dr. W. C. Winn, Richmond, as guests. While there, they visited clinics at the Passavant, Wesley Memorial, Presbyterian, and University of Illinois Research Hospitals.

General Practice Residencies.

Rear Admiral Clifford A. Swanson, MC, USN, Surgeon General and Chief of the Bureau of Medicine and Surgery, announces that a new residency in General Practice will be inaugurated in Naval Hospitals on July 1, 1948. The Professional Division of the Bureau of Medicine and Surgery has developed a residency in that phase of medicine which is required to augment the several medical specialties recognized by the American Specialty Boards in order to supplement the residency training program, now operative, which is designed toward specialization. The program, as planned, will cover a period of three years. During each year of this residency Medical Officers will receive six months of training in General Medicine and related specialties, and six months in General Surgery and related specialties. Instruction will be provided by the staffs of the hospitals and outstanding civilian visiting staffs. With the introduction of this type of training Navy Medicine has recognized the great need of the General Practitioner in the field of medicine.

Physicians On Social Hygiene Committee.

Dr. T. W. Murrell has been named chairman of the Richmond Social Hygiene Committee. Other doctors on the committee are Drs. Wyndham B. Blanton, Raymond Kimbrough, and L. J. Roper. The committee is cooperating in a nation-wide campaign to educate people on current methods of controlling venereal diseases.

Association of American Physicians.

At the annual meeting of this Association, held in Atlantic City in May, Dr. Francis G. Blake, New Haven, Connecticut, was named president, succeeding Dr. A. H. Gordon of Montreal, Canada. Other officers elected are: vice-president, Dr. A. R. Dochez, New York; treasurer, Dr. Walter Bauer, Boston; recorder, Dr. Cecil J. Watson, Minneapolis; secretary, Dr. Henry M. Thomas, Jr., Baltimore; and councilor, Dr. Robert F. Loeb, New York.

The American Congress of Physical Medicine

Will hold its twenty-sixth annual scientific and clinical session Sept. 7, 8, 9, 10 and 11 inclusive, at the Hotel Statler, Washington, D. C. All sessions will be open to members of the medical profession in good standing with the American Medical Association. In addition to the scientific sessions, the annual instruction courses will be held Sept. 7, 8, 9 and 10. These courses will be offered in two groups. One set of ten lectures will be based primarily on physics and physiology and attendance will be limited to physicians. One set of ten lectures will be more general in character and will be open to physicians as well as to physical therapists. The physical therapists must be registered with the American Registry of Physical Therapy Technicians. Full information may be obtained by writing to the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

For Sale:

1 S.W. Diathermy #550 and attachments (Liebel-Flarsheim) in excellent condition;

1 S.W. Diathermy #500 and attachments (Liebel-Flarsheim) good condition;

1 Electro-surgical portable Bovie unit;

1 G.E. Model C, Quartz Lamp.

This equipment may be seen at the home of the late Dr. J. E. Knight at Warrenton, Va. (*Adv.*)

Wanted.

Laboratory Technician for 45 bed Virginia Hospital. Full Maintenance. Salary open. Write "Technician", care this journal, 1200 East Clay Street, Richmond 19. (*Adv.*)

For Sale.

Physician's Roller-Top Desk and Chair (American Case and Register Company). Excellent condition. Phone Richmond 5-4553 or write "Desk", care the Monthly. (*Adv.*)

Pathologist

Of long experience, certified in clinical pathology by the American Board of Pathology, available as director of hospital laboratories in North Carolina or Virginia. Address "Clinical Pathologist", care the Monthly, 1200 East Clay Street, Richmond 19. (*Adv.*)

OBITUARIES

Dr. Marshall Peterson Gordon,

Widely known urologist of Richmond, died May 10th, following a heart attack. He was forty-three years of age and received his medical degree from the University of Virginia in 1927. Dr. Gordon had practiced in Richmond since 1932 and was assistant urologist at the Medical College of Virginia and urologist for the hospital division of the College. During World War II, he served with the United States Navy in the South Pacific and was discharged with the rank of commander. Dr. Gordon was a member of several state and national urological societies and had been a member of the Medical Society of Virginia for fifteen years. His wife and two children survive him.

Dr. Silas Terry Yeatts.

Floyd, died of uremia and hypertensive heart disease on April 27th, at the age of 61, having been in poor health for several years. He received his medical training at Lincoln Memorial in Tennessee. After practicing a few years in Tennessee and Kentucky, he returned to his native State in 1922. Dr. Yeatts was president of the Floyd County Medical Society, a member of Floyd Town Council, on the County Board of Health, and a Mason. During his active years, he had been a member of the Medical Society of Virginia, Southwestern Virginia Medical Society and the Roanoke Academy of Medicine. He is survived by his wife, one daughter, and four sons.

Dr. George Tully Vaughan,

Honorary member of the Medical Society of Virginia, died in Washington, D. C., on April 26th. He was born in Nelson County, Virginia, in 1859, and received his medical degree from the University of Virginia in 1879. Dr. Vaughan was formerly chief surgeon of the Georgetown University Hospital. He had been a member of the Medical Society of Virginia for sixty-six years and was made an Honorary Member in 1905.

Dr. Philip Edward Rossiter,

Avon, New York, died April 30th, at the age of seventy-one. He graduated from the Long Island College of Medicine, Brooklyn, in 1902. Dr. Rossiter had been a member of the Medical Society of Virginia since 1930, having joined when he was located at Lee Hall, Virginia, with the James River Fleet. His wife and a son survive him.

Dr. Cornelius James Seay,

Scarsdale, New York, died April 24th. He was born at Fork Union, Virginia, in 1873 and graduated from the former University College of Medicine, Richmond, in 1898. Dr. Seay had been a member of the Medical Society of Virginia for forty-nine years. His wife and a daughter survive him.

Resolution on Dr. Miles.

The Danville-Pittsylvania Academy of Medicine wishes to express its sincere sorrow in the untimely death of Dr. Perry Watson Miles, of Danville, on February 21, 1948.

Dr. Miles' death is an irreparable loss to his family, his medical colleagues and his many patients and friends in the community of Danville. His devotion to the welfare of children as shown by his many years of service on the Danville School Board and his active interest in promoting recreational facilities in the City, in addition to his large pediatric practice, has won the admiration and esteem of his fellow practitioners.

CLAYTON BRANTLY, *Secretary-Treasurer,*
Danville-Pittsylvania Academy of Medicine.

Memorial—Dr. Harvie DeJarnette Coghill.

Harvie DeJarnette Coghill, son of Phillip Hawes and Annie Gayle Coghill, was born December 12, 1884 in Caroline County, Virginia. In his early youth he attended the public schools in the neighborhood where his family resided and later enrolled in the Massey Business College of Richmond. After completing the course in that school he took a position with a business firm in this city. He quickly became so efficient that he received one promotion after another, becoming secretary and office manager of the firm, and finally being taken into partnership by his employer.

The success which Harvie Coghill achieved in the business world did not satisfy his ambition. He was eager for a college education and a broader cultural life. He was an omnivorous reader, choosing always the old classics and the best books of modern literature. Thus early in life he developed to the fullest the varied talents with which he had been endowed.

After several years in the workaday world he resigned from the lucrative position he held, sold his interest in the business and entered Richmond College. While a student there he became a member of the staff of "The Messenger", a magazine published by the students, and developed quite a talent for short story writing. After completing his course at the University of Richmond he attended William and Mary College and later Harvard

University, in both of which he majored in psychology and social science. As a trained psychologist he became the first "approved mental examiner" (other than a medical doctor) in the State of Virginia, and was employed as such by the State Department of Public Welfare, then known as the State Board of Charities and Corrections. Upon the outbreak of World War I he received a commission as First Lieutenant in the Army and was assigned to the medical staff of his unit. Soon after his discharge from the Army Mr. Coghill was appointed Chief Probation Officer of the Juvenile and Domestic Relations Court of Norfolk. While holding this office he was married to Miss Mary Brightwell of West Virginia. Two daughters were born of this marriage, Phyllis Ann, now Mrs. Leroy Edward Brown, III, and Mary Lou, now Mrs. Robert Taylor Poland.

Because of his intense interest in the field of psychology and psychiatry, Mr. Coghill decided to enter the Medical College of Virginia, where he continued his education until he won the degree of M.D. While a student in the Medical College he became also an instructor in that institution and worked part time for the Virginia State Penitentiary. In 1927 Dr. Coghill was awarded a $3,000 fellowship by the National Committee of Mental Hygiene and for a year studied child psychiatry in Boston, Cleveland and New York. In 1928 Dr. Coghill became the Director and Psychiatrist of the Children's Memorial Clinic (now the Memorial Guidance Clinic) of Richmond, and to this he devoted his time and talents for the remaining twenty years of his life. Under Dr. Coghill's skilled, able and successful leadership the Clinic grew, expanded and developed the value and effectiveness of its service to the Juvenile Court, to the schools and the welfare agencies, both public and private, of the City of Richmond; and to children from every walk of life. Recently at the request of the Richmond Community Chest Dr. Coghill has directed plans for the establishment of an adult division of the Clinic, ministering to the mental health of adult persons suffering from nervous and mental disorders.

Dr. Coghill loved life in all its aspects. He loved people and they loved him so it was inevitable that he should have a host of friends and admirers.

Words cannot adequately portray the splendid service that Dr. Coghill has rendered to his youthful patients and their parents. He was patient and kind, tactful, wise and understanding in his approach to the problems of childhood. He gave without stint of himself, his strength and his medical skill in ministering to the needs of every child who came to him. His achievements in his chosen field of child psychology and psychiatry are well known.

The recognition accorded him as one of the outstanding psychiatrists of the State and the nation is attested by his membership and active participation in the Richmond Academy of Medicine, the Virginia Medical Society, the American Medical Association, the American Psychiatric Society and the American Orthopsychiatric Association. Recently he has served as co-ordinator of the International Congress of Mental Hygiene and helped to prepare for the approaching conference to be held next summer in London.

Dr. Coghill was an educator as well as a physician. As long as his health permitted he served as a teacher at the Medical College of Virginia and at the Richmond School of Social Work. He was always active in broadening the public's knowledge of the mental health aspects of his work and in training young men and women who attended his classes or who were assigned to the Clinic for their field work. With the undergraduate students he was always sympathetic and patient and commanded their respect and affection.

About sixteen years ago Dr. Coghill suffered a severe attack of arthritis which left him crippled physically but in no way dimmed his brilliant mind. Like the great soul that he was he courageously overcame the handicap of this malady and continued to minister with tenderness and understanding to the needs of troubled people who came to him for help.

Following a recent illness Dr. Coghill passed away on February 6, 1948.

NOW, THEREFORE, in recognition and appreciation of the twenty years of able, unselfish and devoted service of Dr. Harvie DeJarnette Coghill as the Psychiatrist and Director of the Memorial Guidance Clinic and its predecessor, the Children's Memorial Clinic,

BE IT RESOLVED by the Board of Directors of the Memorial Guidance Clinic that in the death of Dr. Coghill the Clinic and the City of Richmond have sustained an irreparable loss; that we extend to his bereaved family our deepest sympathy. The example of his remarkable life will long live in the memory of those who knew him and will serve as an inspiration to the generation of young men and young women who follow in the trail that he has blazed.

BE IT FURTHER RESOLVED that a copy of these resolutions be sent to Dr. Coghill's family, that a copy be published in the VIRGINIA MEDICAL MONTHLY and a copy spread on the minutes of this Clinic.

NATALIE BLANTON
JULIA H. SACKETT
BLISS WILLIAMS STREET
H. W. DECKER
JAMES HOGE RICKS